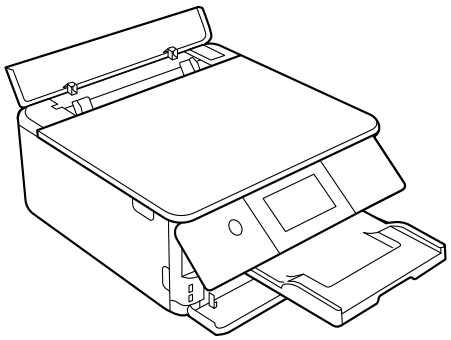
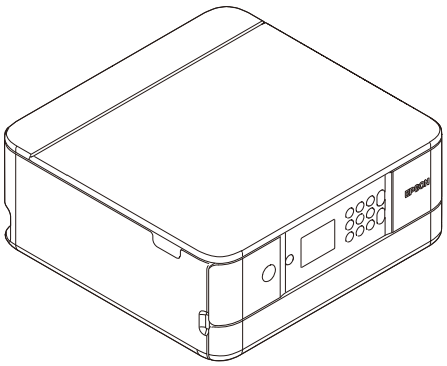
SERVICE MANUAL





Color Inkjet Printer

Epson XP-8500/XP-8505
Epson XP-6000/XP-6001/XP-6005

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SEMF17-001

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Safety Precautions

All safety procedures described here shall be strictly adhered to by all parties servicing and maintaining this product.

DANGER

Strictly observe the following cautions. Failure to comply could result in serious bodily injury or loss of life.

1. Always disconnect the product from the power source and peripheral devices when servicing the product or performing maintenance.
2. When performing works described in this manual, do not connect to a power source until instructed to do so. Connecting to a power source causes high voltage in the power supply Unit and some electronic components even if the product power switch is off. If you need to perform the work with the power cable connected to a power source, use extreme caution to avoid electrical shock.

WARNING

Strictly observe the following cautions. Failure to comply may lead to personal injury or loss of life.

1. Always wear protective goggles for disassembly and reassembly to protect your eyes from ink in working. If any ink gets in your eyes, wash your eyes with clean water and consult a doctor immediately.
2. When using compressed air products; such as air duster, for cleaning during repair and maintenance, the use of such products containing flammable gas is prohibited.

PRECAUTIONS

Strictly observe the following cautions. Failure to comply may lead to personal injury or damage of the product.

1. Repairs on Epson product should be performed only by an Epson certified repair technician.
2. No work should be performed on this product by persons unfamiliar with basic safety knowledge required for electrician.
3. The power rating of this product is indicated on the serial number/rating plate. Never connect this product to the power source whose voltages is different from the rated voltage.
4. Replace malfunctioning components only with those components provided or approved by Epson; introduction of second-source ICs or other non-approved components may damage the product and void any applicable Epson warranty.
5. The capacitors on the Main Board may be electrically charged right after the power turns off or after driving motors which generates counter electromotive force such as when rotating the PF Roller or when moving the CR Unit. There is a risk to damage the Main Board if the Head FFC is short-circuited with the capacitors on the Main Board electrically charged, therefore, after the power turns off or after motors are driven, leave the printer untouched for approximately 30 seconds to discharge the capacitors before starting disassembly/ reassembly.
6. To prevent the circuit boards from short-circuiting, be careful about the following when handling FFC or cables.
   - When handling FFC, take care not to let the terminal section of FFC touch metal parts.
   - When connecting cables/FFC to the connectors on circuit boards, connect them straight to the connectors to avoid slant insertion.

7. In order to protect sensitive microprocessors and circuitry, use static discharge equipment, such as anti-static wrist straps, when accessing internal components.
8. Do not tilt this product immediately after initial ink charge, especially after performing the ink charge several times. Doing so may cause ink to leak from the product because it may take some time for the waste ink pads to completely absorb ink wasted due to the ink charge.
9. Never touch the ink or wasted ink with bare hands. If ink comes into contact with your skin, wash it off with soap and water immediately. If you have a skin irritation, consult a doctor immediately.
10. When disassembling or assembling this product, make sure to wear gloves to avoid injuries from metal parts with sharp edges.
11. Use only recommended tools for disassembling, assembling or adjusting the printer.
12. Observe the specified torque when tightening screws.
13. Be extremely careful not to scratch or contaminate the following parts.
    - Nozzle plate of the printhead
    - CR Scale
    - PF Scale
    - Coated surface of the PF Roller
    - Gears
    - Rollers
    - LCD
    - SCN Sensor
    - Exterior parts
14. Never use oil or grease other than those specified in this manual. Use of different types of oil or grease may damage the component or give bad influence on the printer function.
15. Apply the specified amount of grease described in this manual.
16. Make the specified adjustments when you disassemble the printer.
17. When cleaning this product, follow the procedure described in this manual.
18. When transporting this product after filling the ink in the printhead, pack the printer without removing the ink cartridges in order to prevent the printhead from drying out.
19. Make sure to install antivirus software in the computers used for the service support activities.
20. Keep the virus pattern file of antivirus software up-to-date.
21. When disassembling/reassembling this product, if you find adhesive power of the double-sided tape which secure the parts or FFC is not enough, replace the tape with new one and attach it correctly to the specified points where the parts or FFC should be secured.
22. Unless otherwise specified in this manual, the labels attached on the returned product should be transferred to the corresponding attachment positions on the new one referring to the labels on the returned product.

About This Manual

This manual, consists of the following chapters, is intended for repair service personnel and includes information necessary for properly performing maintenance and servicing the product.

CHAPTER 1. TROUBLESHOOTING

Describes the step-by-step procedures for the troubleshooting.

CHAPTER 2. DISASSEMBLY / REASSEMBLY

Describes the disassembly/reassembly procedures for main parts/Units of the product, and provides the standard operation time for servicing the product.

CHAPTER 3. ADJUSTMENT

Describes the required adjustments for servicing the product.

CHAPTER 4. MAINTENANCE

Describes maintenance items and procedures for servicing the product.

CHAPTER 5. APPENDIX

Provides the following additional information for reference:

- Connector Diagram
- Protection for Transportation

Symbols Used in this Manual

Various symbols are used throughout this manual either to provide additional information on a specific topic or to warn of possible danger present during a procedure or an action. Pay attention to all symbols when they are used, and always read explanation thoroughly and follow the instructions.

Indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in serious injury or loss of life.

Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in bodily injury, damage or malfunction of equipment.

May indicate an operating or maintenance procedure, practice or condition that is necessary to accomplish a task efficiently. It may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.

For Chapter 2 “Disassembly/Reassembly”, symbols other than indicated above are used to show additional information for disassembly/reassembly. For the details on those symbols, see "2.3 Disassembly/Reassembly Procedures (p69)".

Revision Status

Revision	Date of Issue	Description
A	Jun 14, 2017	First Release
B	August 23, 2017	Revised Contents ☐ All capters ■ Description about XP-6000/XP-6001/XP-6005 has been added. ☐ Capter 3 ■ Made change in "3-2 Required adjustment (p101)". ☐ Capter 5 ■ Made change in "5.2.1 Securing the CR Unit (p133)". ☐ Capter 6 ■ Description about " XP-6000/XP-6001/XP-6005 (p138)" has been added. ☐ Capter 7 ■ Description about " Refurbishment (p142)" has been added.

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CHAPTER **1**

TROUBLESHOOTING

1.1 Troubleshooting

This section describes the troubleshooting workflow and fatal error information.

1.1.1 Troubleshooting Workflow

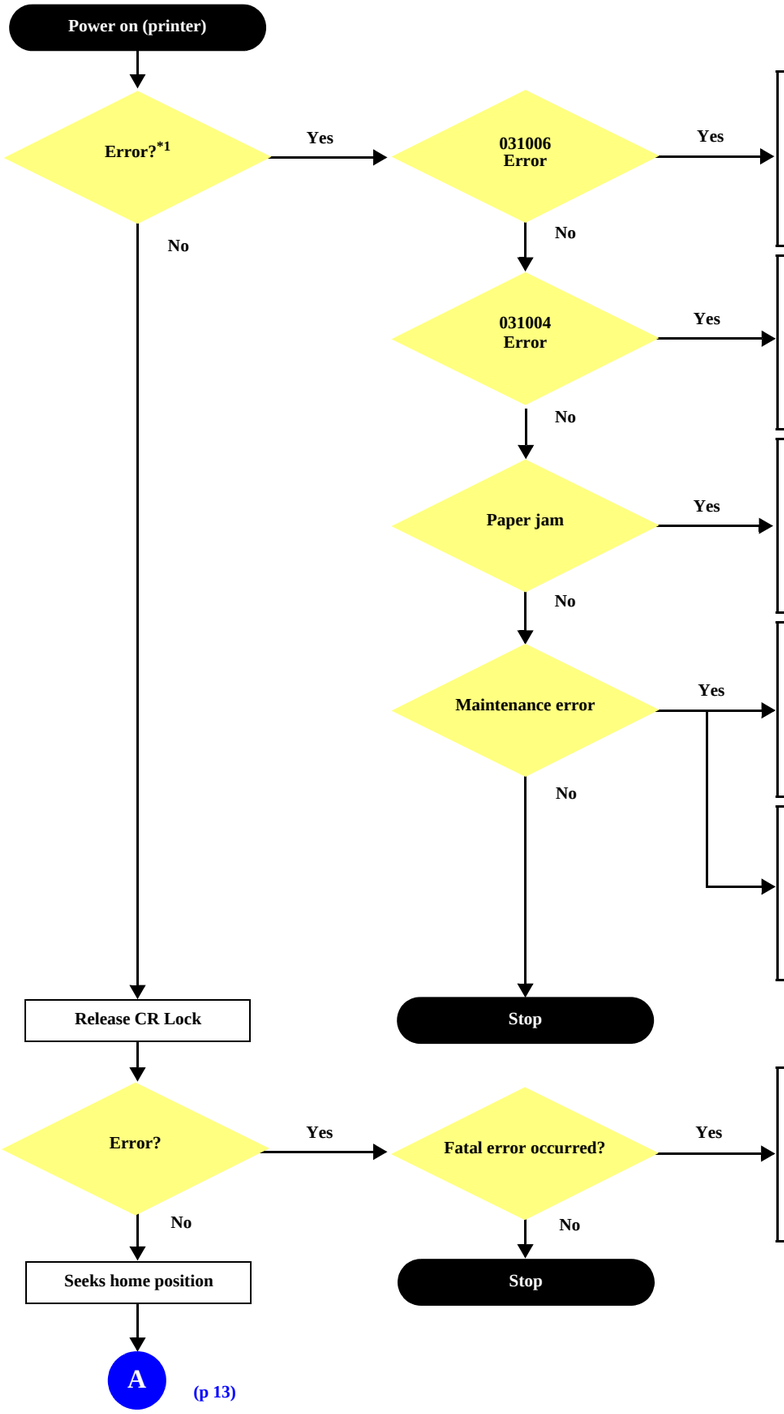
The following page describes the troubleshooting workflow. Follow the flow when troubleshooting problems.

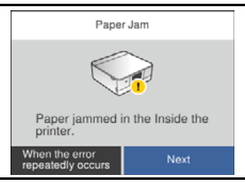
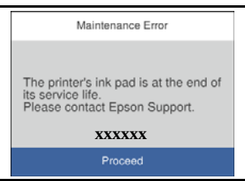
- **This flowchart is compiled based on the following contents.**
  - **Our experience regarding the quality problem.**
  - **ESK's repair data.**
  - **Printer Mechanism specification for the product.**
- **If the reason for the return is evident, first check the phenomenon user claims recurs, then proceed to the troubleshooting.**
- **If the SCN error is the reason for the return, since the printer may be the cause of the error, check the Fatal Error Code history saved in the EEPROM with the adjustment program before starting the troubleshooting.**

- ☐ " Workflow when the Power is ON (Printer): XP-8500/XP-8505 (p12)"
- ☐ " Workflow for Scanner Errors when the Power is ON: XP-8500/XP-8505 (p15)"
- ☐ " Workflow for Errors when Printing Starts: XP-8500/XP-8505 (p16)"
- ☐ " Workflow when the Power is ON (Printer): XP-6000/XP-6001/XP-6005 (p17)"
- ☐ " Workflow for Scanner Errors when the Power is ON: XP-6000/XP-6001/XP-6005 (p21)"
- ☐ " Workflow for Errors when Printing Starts: XP-6000/XP-6001/XP-6005 (p22)"

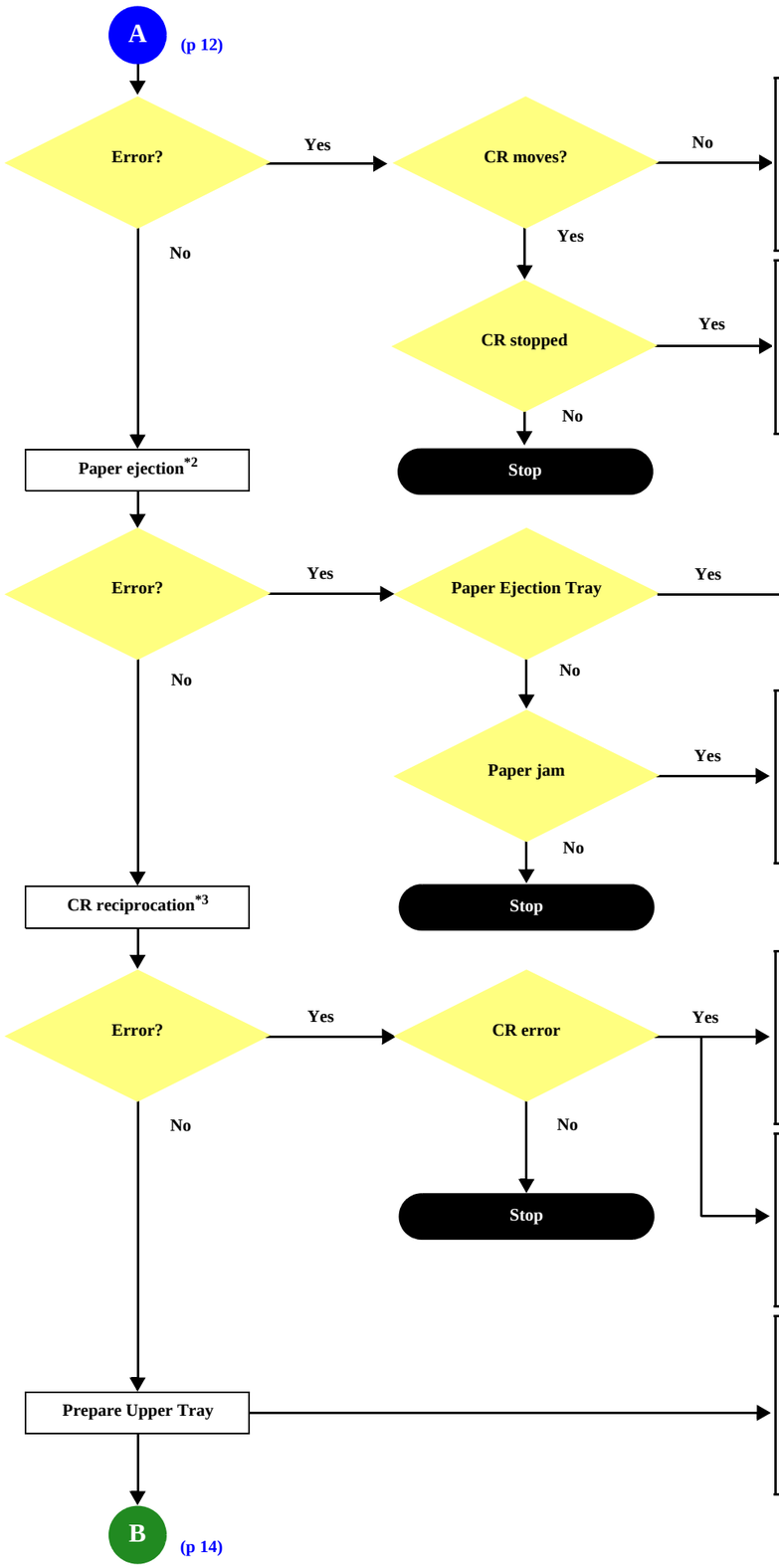
1.1.1.1 Workflow when the Power is ON (Printer): XP-8500/XP-8505

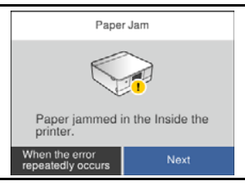
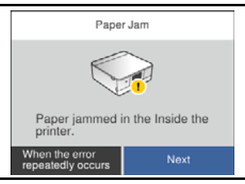
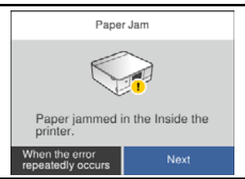
- **Fatal Errors may occur during the Mechanism operation. When an error occurred other than the timing shown below, check the Mechanism for other causes.**
- **See "1.1.1.2 Workflow for Scanner Errors when the Power is ON: XP-8500/XP-8505 (p15)" since the scanner operates during the power-on sequence of the printer.**



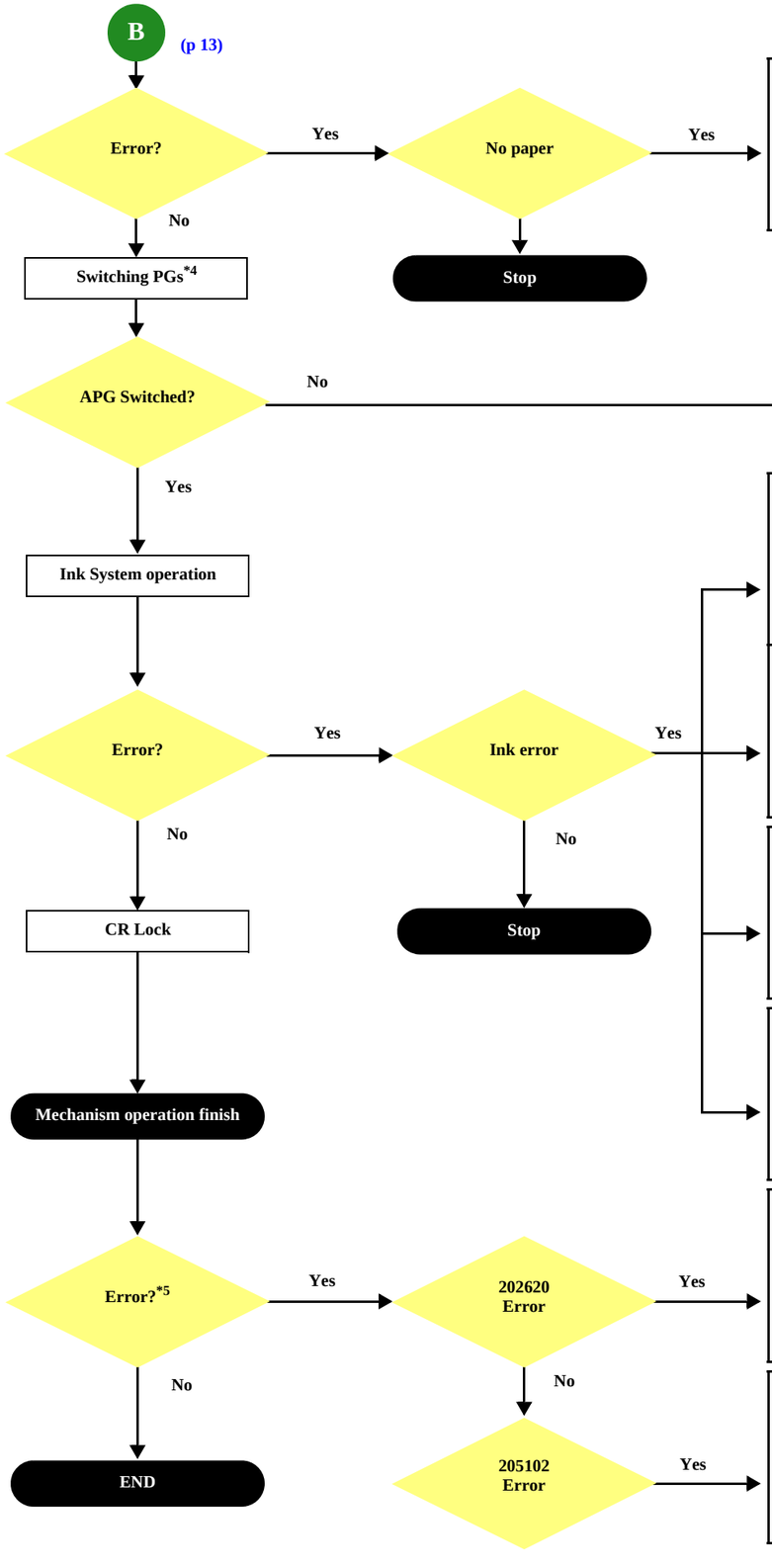
	■ Blowout of a fuse of the Main Board ■ Circuit error due to the abnormality of the CRCM Board	■ Confirm the contact points around the CSIC. ■ Check disconnection/breakage of the FFC. ■ Replace the Main Board.
	Detects abnormality of the Head Thermistor.	■ Check disconnection, breakage, slant connection, or damage contact of the Head FFC. ■ Print head is broken. ■ Replace the Main Board.
	■ Paper jam ■ PE Sensor adjustment value abnormality	■ Check if the PE Sensor is broken, or its cable is disconnected, broken or connected at an angle. ■ Replace the Main Board.
	Maintenance error	Replace the Maintenance Box.
	Borderless maintenance error	Reset the Borderless Waste Ink Pad Counter.
	1. I/S_APG Motor did not rotate. (Error Code: 000041) 2. I/S_APG Motor rotated too fast. (Error Code: 000041) 3. I/S_APG Motor rotated. (Error Code: 000043)	1. Disconnection of the I/S_APG Motor Connector, load is too large for Inksystem. 2. Replace the I/S_APG Encoder FFC, the I/S_APG Encoder. 3. Replace the I/S_APG Encoder FFC. Common: Replace the Main Board.

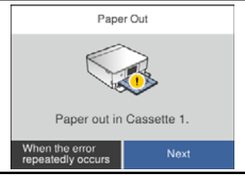
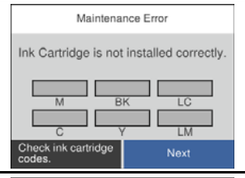
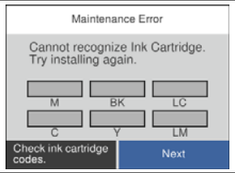
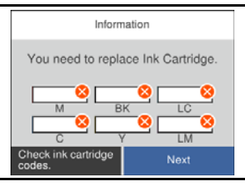
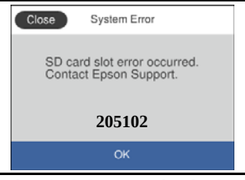
Note: "*1": Mechanism does not operate yet.



	CR did not function.	■ Check whether the CR Lock is released. If not, the I/S_APG Motor or the Ink system is broken. ■ Check the mechanical load of the CR manually, and check the Ink system also. ■ CR Motor disconnect, replace the cable. ■ Replace the CR Motor. ■ Replace the Main Board.
	1. Fatal Error (Error Code: 000025) 2. Fatal Error (Error Code:000023 [Stops with noises.])	1. Clean or replace the CR Encoder Scale. 2. Check whether any obstacle exists in the CR motion range.
	When the paper ejection is performed due to paper presence, Stacker Assy error occurs because the assy also operates due to its movement.	See "1.1.1.3 Workflow for Errors when Printing Starts: XP-8500/XP-8505 (p16)".
	PE Sensor detected paper presence Note: PF Motor rotates for a while (longer than normal), and then the error occurs.	■ Check if any obstacle exists in the Paper Path. Remove it if any. ■ Check PE Sensor FFC disconnection/breakage, or replace the FFC. ■ Replace the PE Sensor. ■ Replace the Main Board.
	Paper jam error occurred.	■ Check if there is any obstacle in the CR motion range. ■ Check if the CR Motor gets stuck somewhere when moved by hand. ■ Check if any heavy load exists in the CR motion range. Note: Perform the corresponding repair.
	Fatal Error of CR system occurred.	■ Check if there is any obstacle in the CR motion range. ■ Check if the CR Motor gets stuck somewhere when moved by hand. ■ Check if any heavy load exists in the CR motion range. Note: Perform the corresponding repair.
	If the Upper Tray is sticking out approximately 20 mm, the Upper Tray Cable may be abnormal or the Upper Tray Sensor may be broken.	

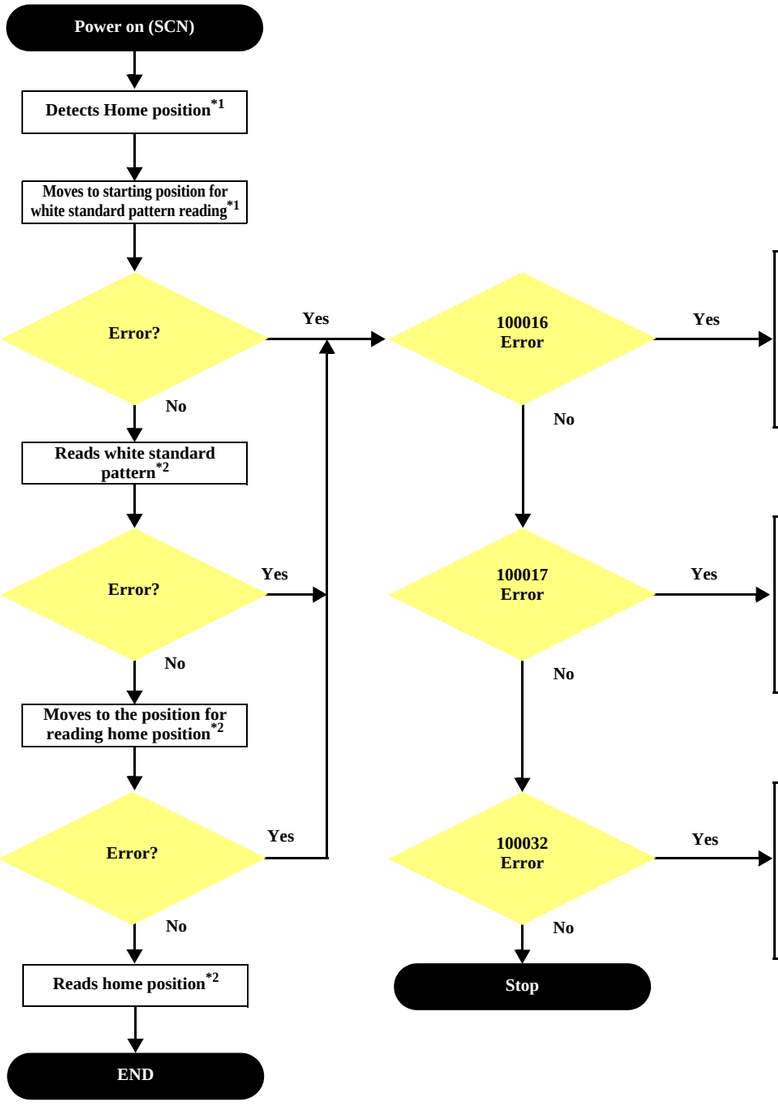
Note: "*2": Occurs when the abnormality existed just before turning the power off.
"*3": CR Unit reciprocates two times quickly when environmental temperature is lower than 5°C or when initial charge is not performed yet.



	Upper Tray Sensor failure	■ Check disconnection/breakage of the Upper Tray Sensor Cable. ■ Replace the Upper Tray Sensor. ■ Replace the Sub Board. ■ Replace the Main Board.
	■ APG Switching Wheel Train movement failure ■ APG Sensor, APG Sensor FFC failure ■ CR mechanism failure	■ Check the APG Wheel Train for any obstacles in the Main Frame or any stuck points. ■ Check disconnection/breakage of the APG Sensor FFC, or replace the FFC. ■ Replace the APG Assy.
	<Message> Ink Cartridge is not installed correctly.	■ Check the installation of the Ink Cartridge. ■ Check the Ink Cartridge remaining. ■ Check the contact point problem of the CSIC. ■ Replace the CSIC Cable. ■ Replace the CSIC Board. ■ Replace the Main Board.
	<Message> Cannot recognize Ink Cartridge. Try installing again.	
	<Message> You need to replace Ink Cartridge.	Replace the Ink Cartridge.
	<Message> Maintenance Box is at the end of its service life. You need to replace it. T3361 (model number)	Replace the Maintenance Box.
	Wireless LAN Board is broken.	■ Check the state of the Wireless LAN Board. ■ Replace the Wireless LAN Board.
	Card Slot Board is broken.	■ Check the state of the Card Slot Board FFC. ■ Replace the Card Slot Board.

"*4": When APG Sensor Broke, the CR Unit moves up and down five times and then stops at PG-, but no error occurs then.
"*5": Occurs about five to six seconds after the last operation is compete.

1.1.1.2 Workflow for Scanner Errors when the Power is ON: XP-8500/XP-8505

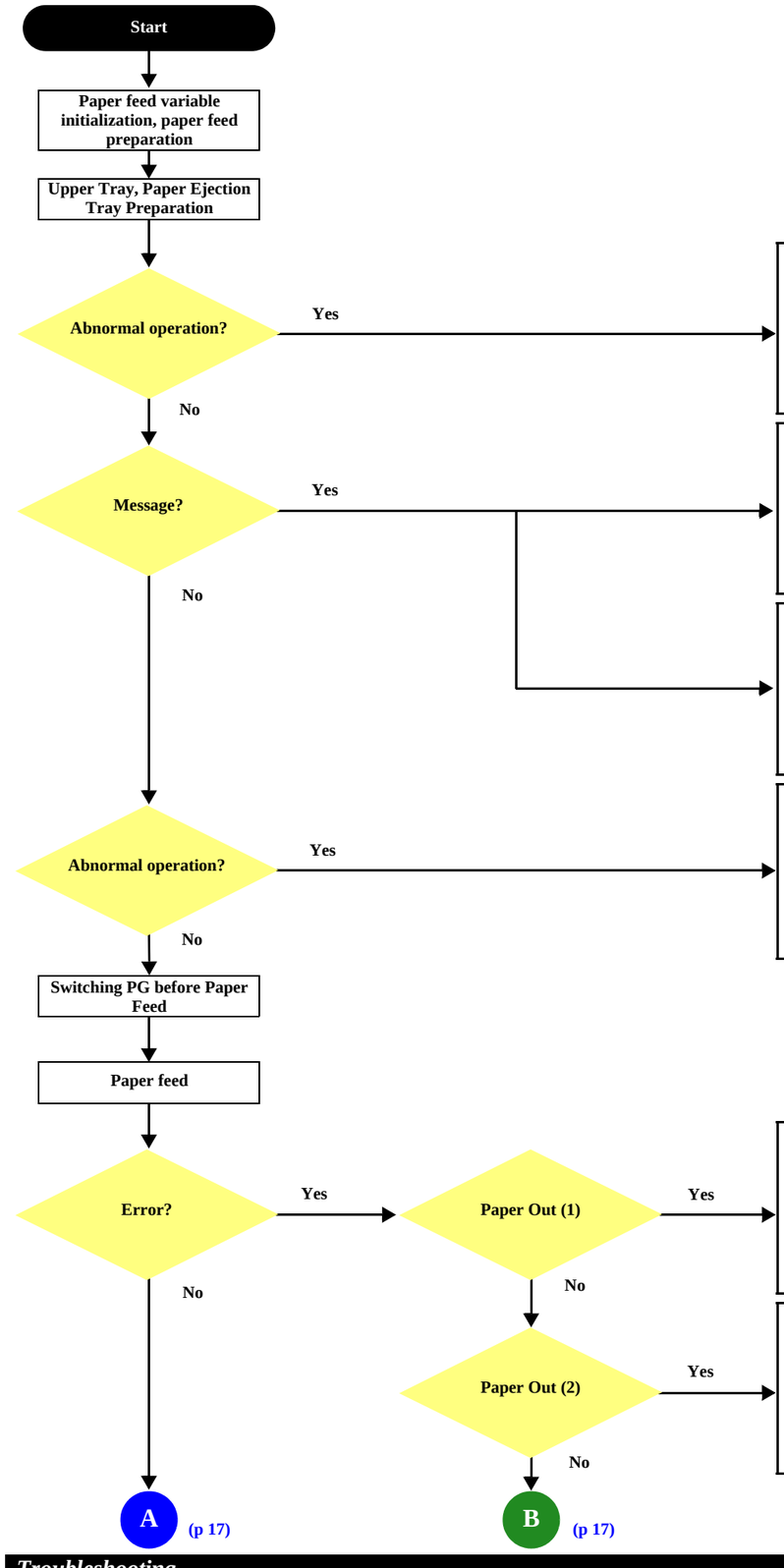


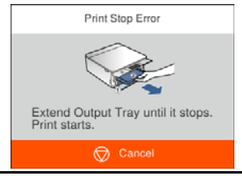
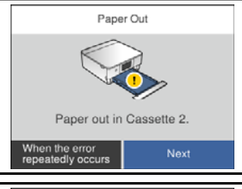
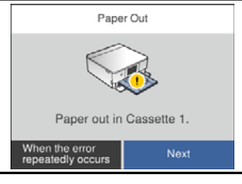
- **The scanner initial operation and the printer initialization are performed in parallel when the power is turned on.**
- **Depending on the error type, a scanner error may occur after the printer was repaired because some of the printer error indications have higher priority (and vice versa).**
- **For repair, replace the SCN Unit.**
- **Measurement failure does not occur when turning the power on. The measurement sequence occurs when entering the power saving mode.**

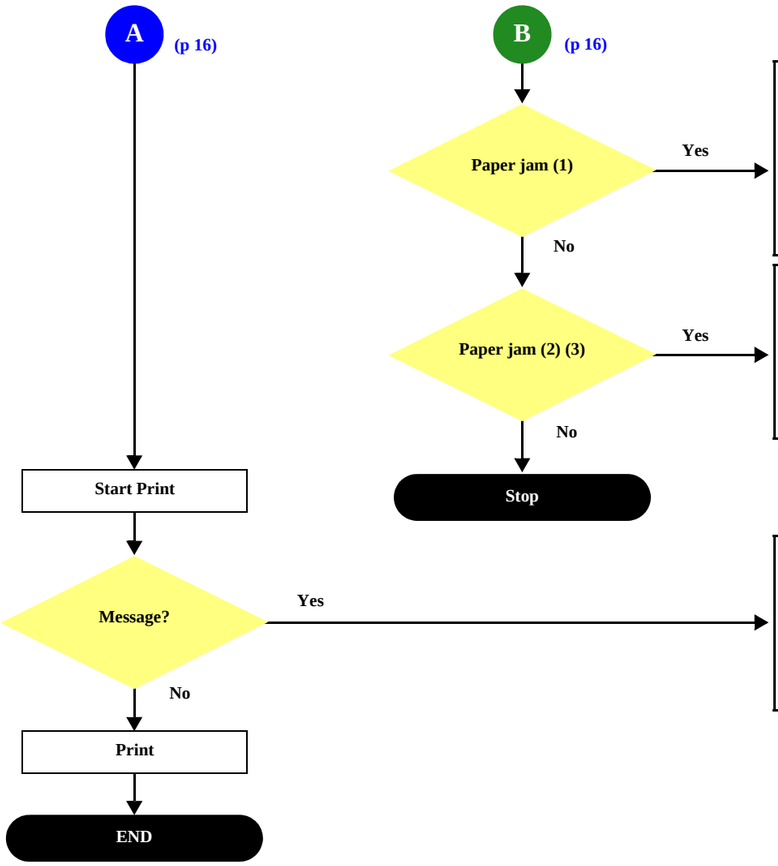
Scanner Error Scanner error. Turn the power off and on again. If the problem persists, visit Epson.com for technical support. **100016**	Home position detection error	■ SCN CR cannot move to the home position because load is too large. ■ CIS is broken (cannot read the white standard pattern and home position pattern).
Scanner Error Scanner error. Turn the power off and on again. If the problem persists, visit Epson.com for technical support. **100017**	Contact detection distance exceeded	■ Contact detection to the right side has not been completed properly. ■ Timing Belt is broken. ■ SCN Motor Wheel Train is detached or broken.
Scanner Error Scanner error. Turn the power off and on again. If the problem persists, visit Epson.com for technical support. **100032**	LED light lighting failure	■ SCN FFC disconnection, breakage, slant connection, or damaged contact (CN70). ■ CIS is broken.

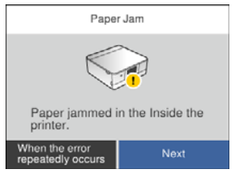
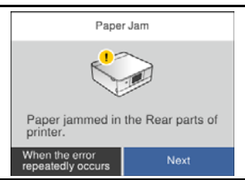
Note: "*1": CIS does not light up.
"*2": CIS lights in greenish white.

1.1.1.3 Workflow for Errors when Printing Starts: XP-8500/XP-8505

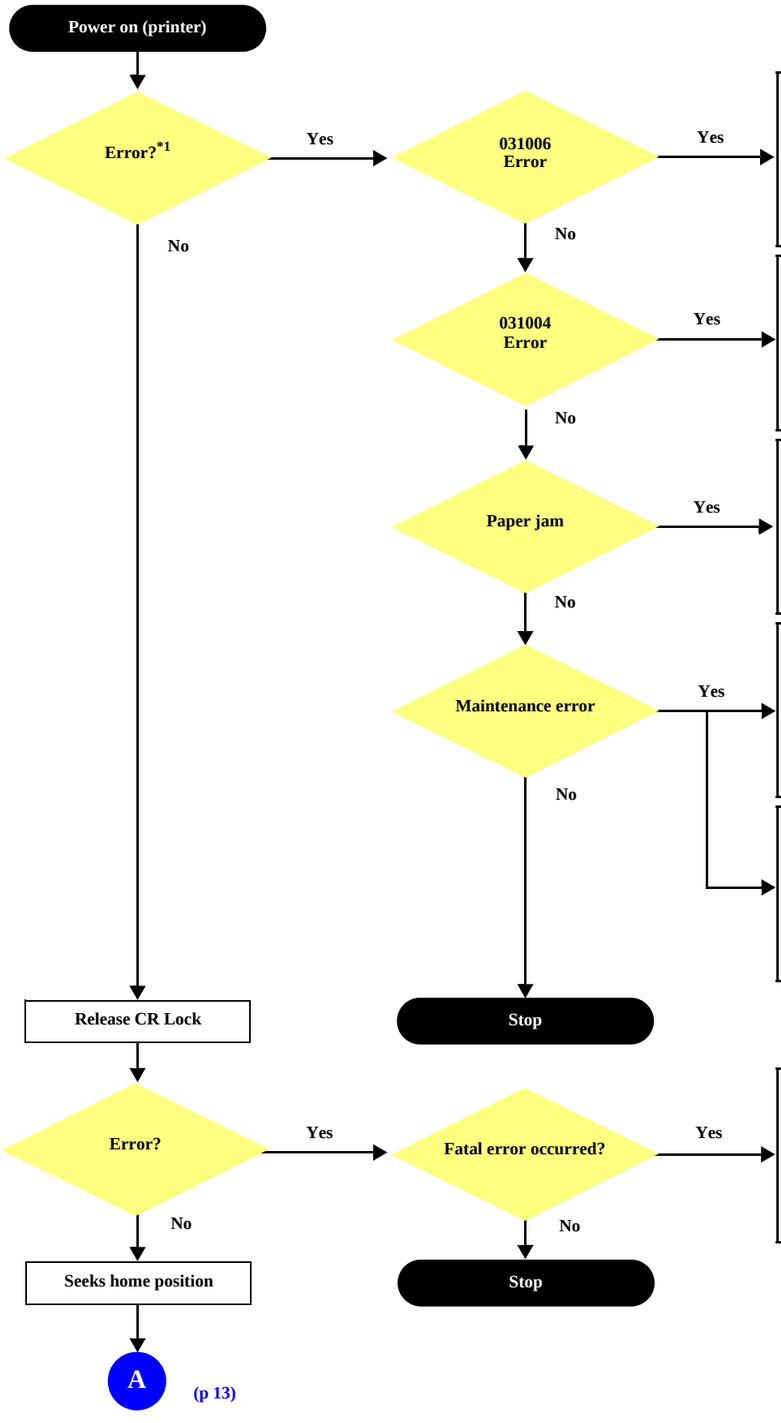


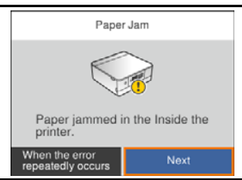
	Upper Tray sticks out approximately 20 mm. Note: Different from the previous models; paper feeding/printing starts without any error.	■ Upper Tray Sensor Cable is disconnected (CN12), improve or replace the cable. ■ Replace the Upper Tray Sensor. ■ Replace the Main Board.
	Extend the Output Tray until it stops. Print starts.	Check if something is placed in front of the Lower Tray/Upper Tray/Panel Assy or any obstacle exists in the Stacker Assy motion range.
	Fatal Error: 000140 to 000144/000150 to 000153 Fatal Error of the Paper Ejection Tray (Stacker Assy) driving system	■ Stacker Assy Sensor Cable disconnected (CN12), improve or replace the cable. ■ Replace the Stacker Assy Sensor. ■ Replace the Stacker Assy Motor and/or Stacker Assy Encoder Sensor. ■ Replace the Main Board.
	Upper Tray sticks out approximately 20 mm. Note: Different from the previous models; paper feeding/printing starts without any error. It will occur again if you push the Upper Tray back in after the first sticking out.	■ Upper Tray Sensor Cable disconnected (CN12), improve or replace the cable. ■ Replace the Upper Tray Sensor. ■ Replace the Main Board.
	■ Paper out in the Lower Tray ■ The leading edge cannot be detected with the PE Sensor in the range of the standard movement.	■ Refill paper to the Lower Tray and set the tray back in place fully. ■ PE Sensor FFC disconnected, breakage, slant connection, damaged contact (CN10). ■ Replace the PE Sensor. ■ Replace the Sub Board. ■ Replace the Main Board.
	■ Paper out in the Upper Tray ■ The leading edge cannot be detected with PE Sensor in the range of the standard movement.	■ Refill paper to the Upper Tray and set the tray back in place fully. ■ PE Sensor FFC disconnection, breakage, slant connection, damaged contact (CN10). ■ Replace the PE Sensor. ■ Replace the Sub Board. ■ Replace the Main Board.



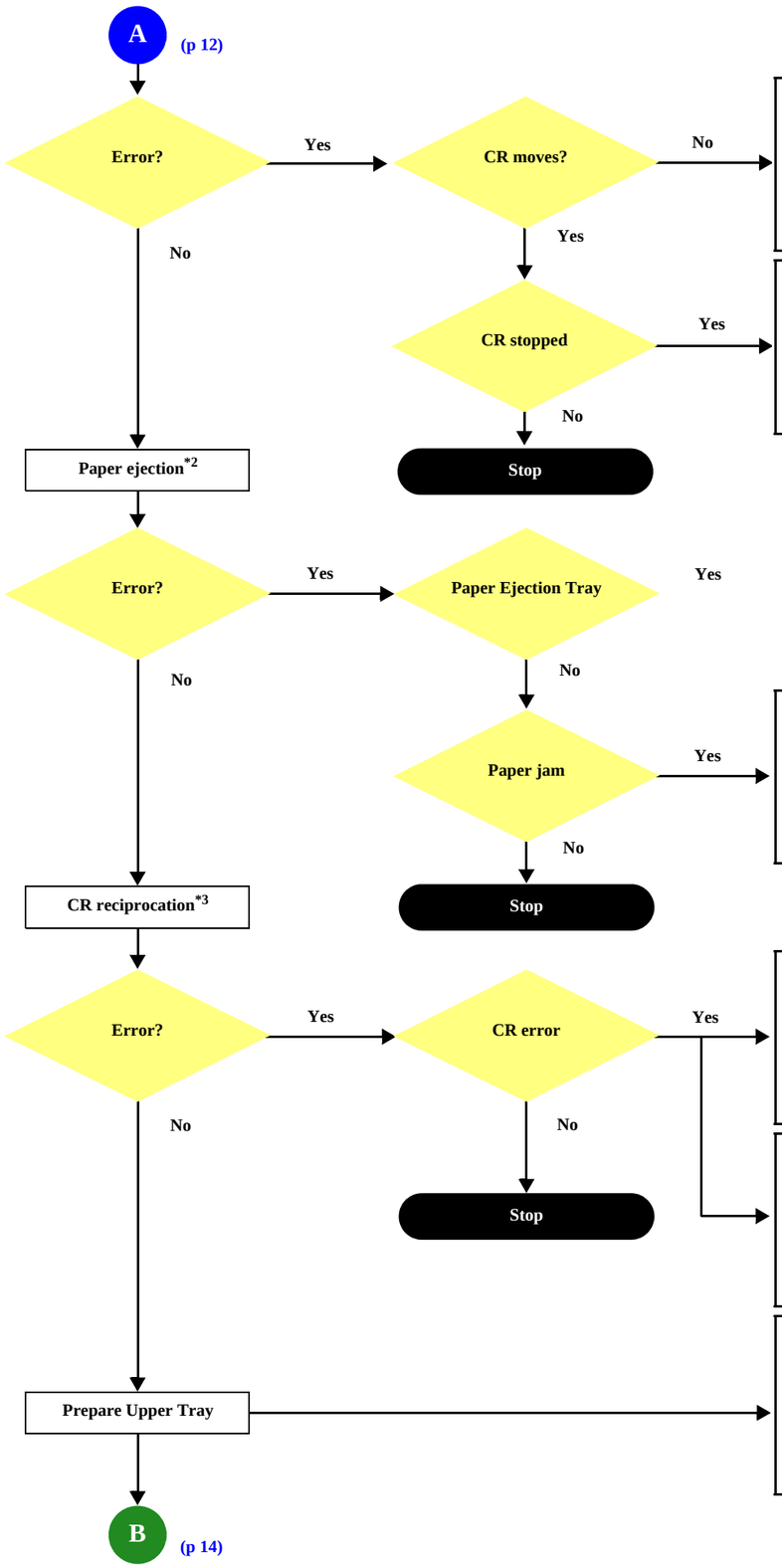
	■ Paper jam occurred between the Lower Tray/Upper Tray and the PE Sensor. ■ PE Sensor, PW Sensor error ■ CR system Fatal Error	■ Remove the foreign objects. ■ PE Sensor/PW Sensor FFC disconnection, breakage, slant connection, damaged contact (CN10/CN30). ■ Replace the PE Sensor/PW Sensor. ■ Troubleshoot and repair the CR system Fatal Error. ■ Replace the Sub Board. ■ Replace the Main Board.
	Paper jam occurred while reversing paper or backside ejecting during paper feeding of duplex printing.	■ Remove the foreign objects. ■ Replace the Upper Tray Sensor.
	■ Fatal Error: Head temperature error (031004) ■ Fatal Error: Head Hot error (before printing) (031001) ■ Fatal Error: Head Hot error (after flushing) (031002) Note: Head Hot error does not occur when the signals do not flow fully because part or all of the contact of FFC is covered by foreign objects or the like.	1. Check the Head FFC state (CN42). 2. Replace the Head. 3. Replace the Main Board. Note: Check the procedure in order.

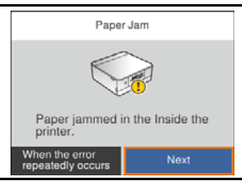
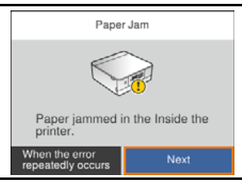
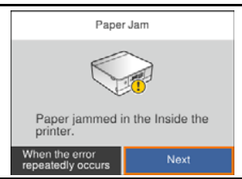
1.1.1.4 Workflow when the Power is ON (Printer): XP-6000/XP-6001/XP-6005



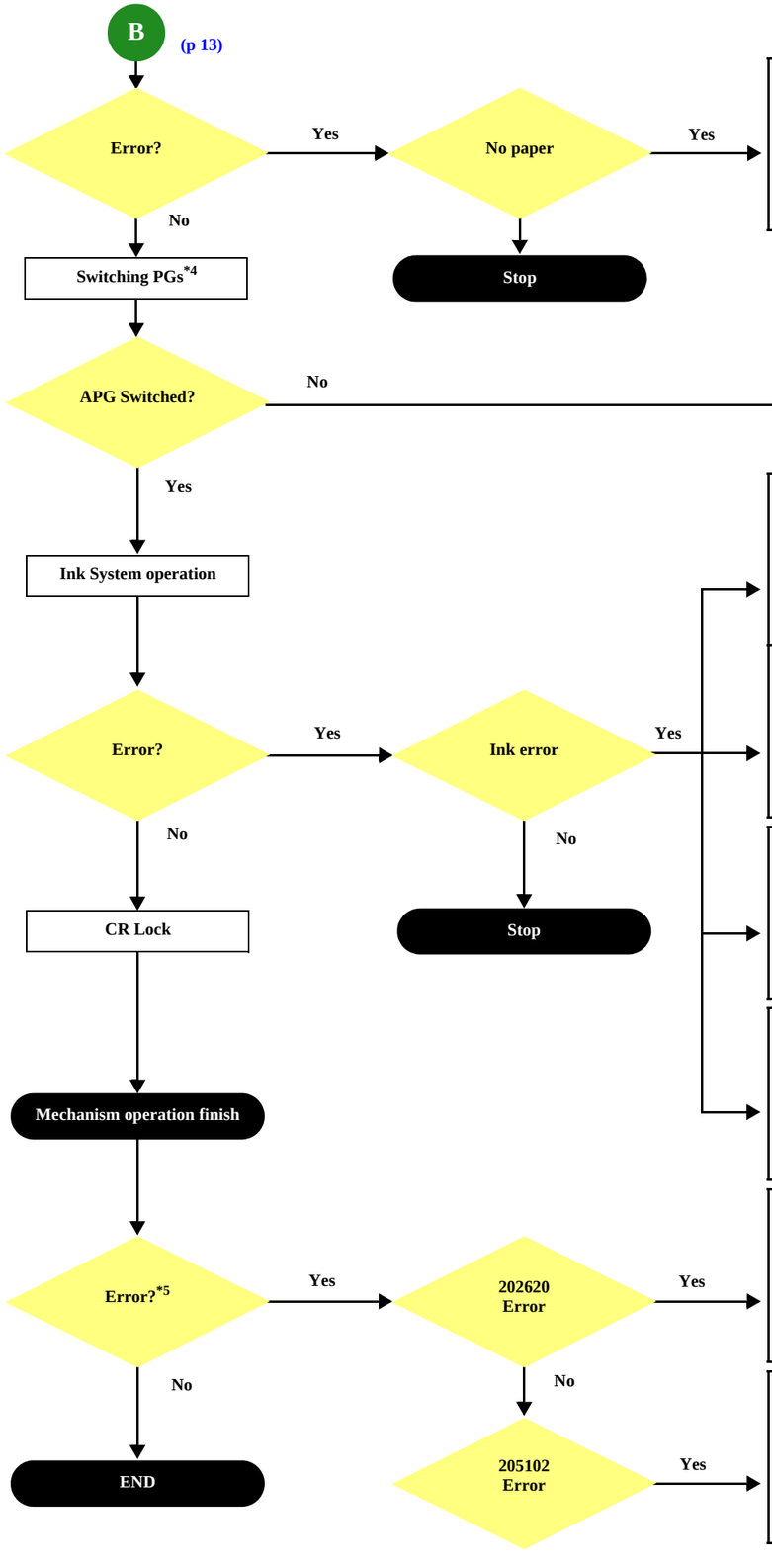
	■ Blowout of a fuse of the Main Board ■ Circuit error due to the abnormality of the CRCM Board	■ Confirm the contact points around the CSIC. ■ Check disconnection/breakage of the FFC. ■ Replace the Main Board.
	Detects abnormality of the Head Thermistor.	■ Check disconnection, breakage, slant connection, or damage contact of the Head FFC. ■ Print head is broken. ■ Replace the Main Board.
	■ Paper jam ■ PE Sensor adjustment value abnormality	■ Check if the PE Sensor is broken, or its cable is disconnected, broken or connected at an angle. ■ Replace the Main Board.
	Maintenance error	Replace the Maintenance Box.
	Borderless maintenance error	Reset the Borderless Waste Ink Pad Counter.
	1. I/S_APG Motor did not rotate. (Error Code: 000041) 2. I/S_APG Motor rotated too fast. (Error Code: 000041) 3. I/S_APG Motor rotated. (Error Code: 000043)	1. Disconnection of the I/S_APG Motor Connector, load is too large for Inksystem. 2. Replace the I/S_APG Encoder FFC, the I/S_APG Encoder. 3. Replace the I/S_APG Encoder FFC. Common: Replace the Main Board.

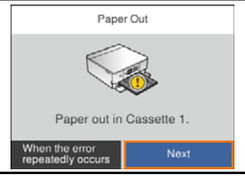
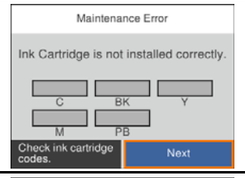
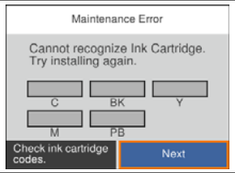
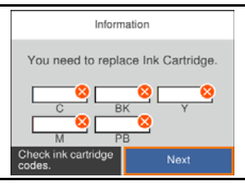
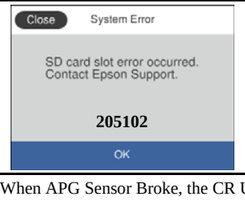
Note: "*1": Mechanism does not operate yet.



	CR did not function.	■ Check whether the CR Lock is released. If not, the I/S_APG Motor or the Ink system is broken. ■ Check the mechanical load of the CR manually, and check the Ink system also. ■ CR Motor disconnect, replace the cable. ■ Replace the CR Motor. ■ Replace the Main Board.
	1. Fatal Error (Error Code: 000025) 2. Fatal Error (Error Code:000023 [Stops with noises.])	1. Clean or replace the CR Encoder Scale. 2. Check whether any obstacle exists in the CR motion range.
	When the paper ejection is performed due to paper presence, Stacker Assy error occurs because the assy also operates due to its movement.	See "1.1.1.3 Workflow for Errors when Printing Starts: XP-8500/XP-8505 (p16)".
	PE Sensor detected paper presence Note: PF Motor rotates for a while (longer than normal), and then the error occurs.	■ Check if any obstacle exists in the Paper Path. Remove it if any. ■ Check PE Sensor FFC disconnection/breakage, or replace the FFC. ■ Replace the PE Sensor. ■ Replace the Main Board.
	Paper jam error occurred.	■ Check if there is any obstacle in the CR motion range. ■ Check if the CR Motor gets stuck somewhere when moved by hand. ■ Check if any heavy load exists in the CR motion range. Note: Perform the corresponding repair.
	Fatal Error of CR system occurred.	■ Check if there is any obstacle in the CR motion range. ■ Check if the CR Motor gets stuck somewhere when moved by hand. ■ Check if any heavy load exists in the CR motion range. Note: Perform the corresponding repair.
	If the Upper Tray is sticking out approximately 20 mm, the Upper Tray Cable may be abnormal or the Upper Tray Sensor may be broken.	

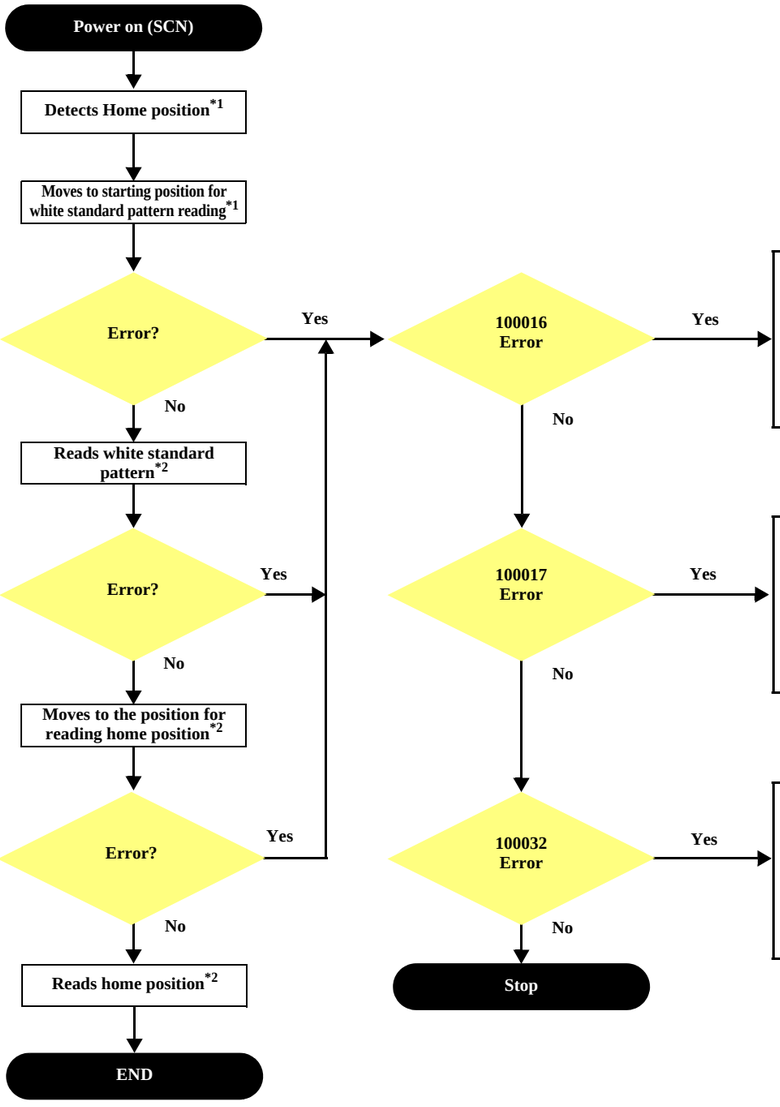
Note: "*2": Occurs when the abnormality existed just before turning the power off.
"*3": CR Unit reciprocates two times quickly when environmental temperature is lower than 5°C or when initial charge is not performed yet.



	Upper Tray Sensor failure	■ Check disconnection/breakage of the Upper Tray Sensor Cable. ■ Replace the Upper Tray Sensor. ■ Replace the Sub Board. ■ Replace the Main Board.
	■ APG Switching Wheel Train movement failure ■ APG Sensor, APG Sensor FFC failure ■ CR mechanism failure	■ Check the APG Wheel Train for any obstacles in the Main Frame or any stuck points. ■ Check disconnection/breakage of the APG Sensor FFC, or replace the FFC. ■ Replace the APG Assy.
	<Message> Ink Cartridge is not installed correctly.	■ Check the installation of the Ink Cartridge. ■ Check the Ink Cartridge remaining. ■ Check the contact point problem of the CSIC. ■ Replace the CSIC Cable. ■ Replace the CSIC Board. ■ Replace the Main Board.
	<Message> Cannot recognize Ink Cartridge. Try installing again.	
	<Message> You need to replace Ink Cartridge.	Replace the Ink Cartridge.
	<Message> Maintenance Box is at the end of its service life. You need to replace it. T3361 (model number)	Replace the Maintenance Box.
	Wireless LAN Board is broken.	■ Check the state of the Wireless LAN Board. ■ Replace the Wireless LAN Board.
	Card Slot Board is broken.	■ Check the state of the Card Slot Board FFC. ■ Replace the Card Slot Board.

"*4": When APG Sensor Broke, the CR Unit moves up and down five times and then stops at PG-, but no error occurs then.
"*5": Occurs about five to six seconds after the last operation is compete.

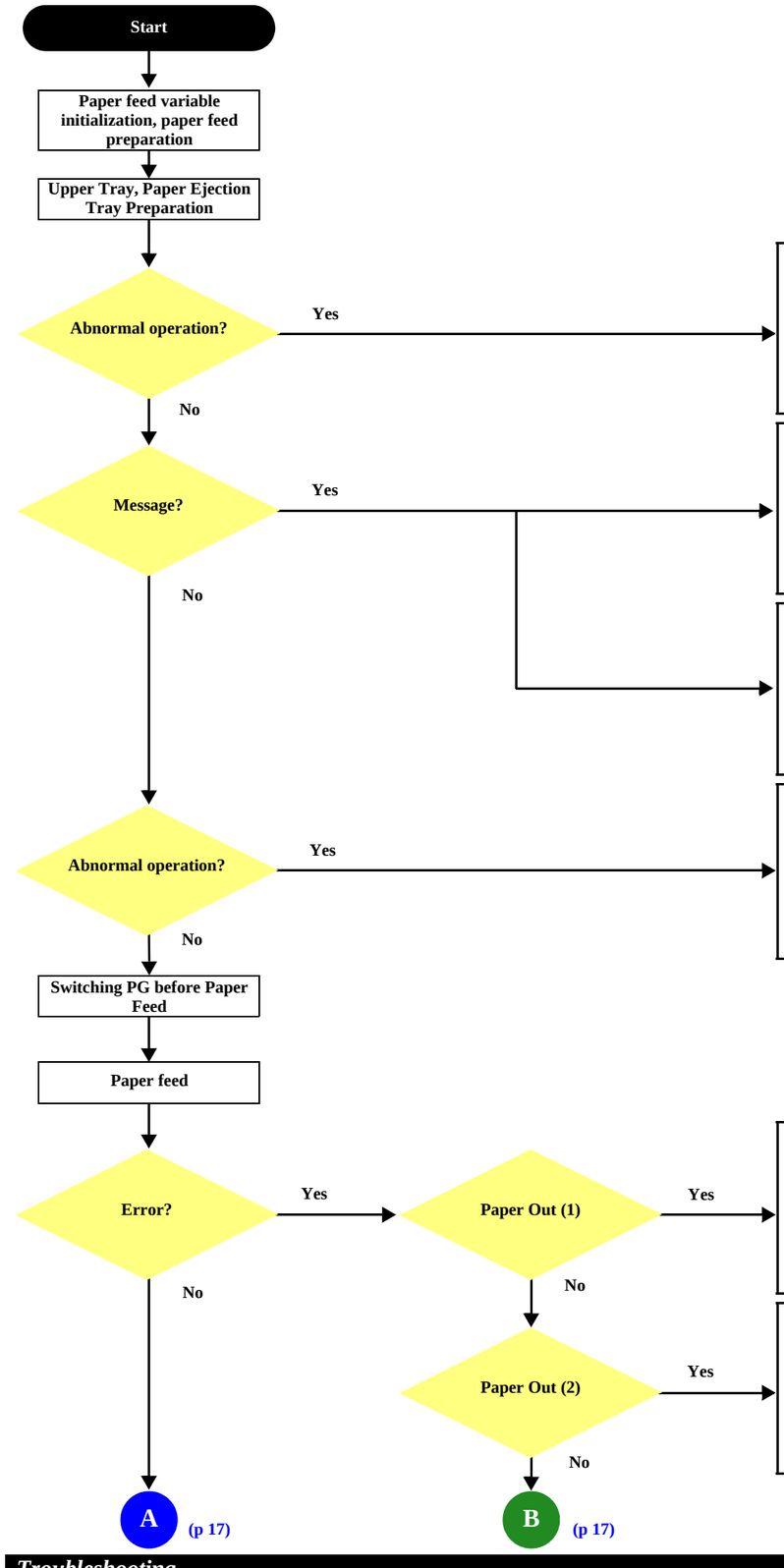
1.1.1.5 Workflow for Scanner Errors when the Power is ON: XP-6000/XP-6001/XP-6005

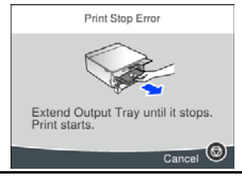
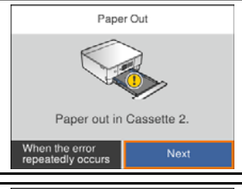
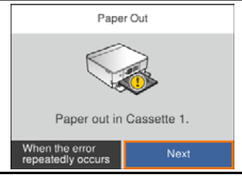


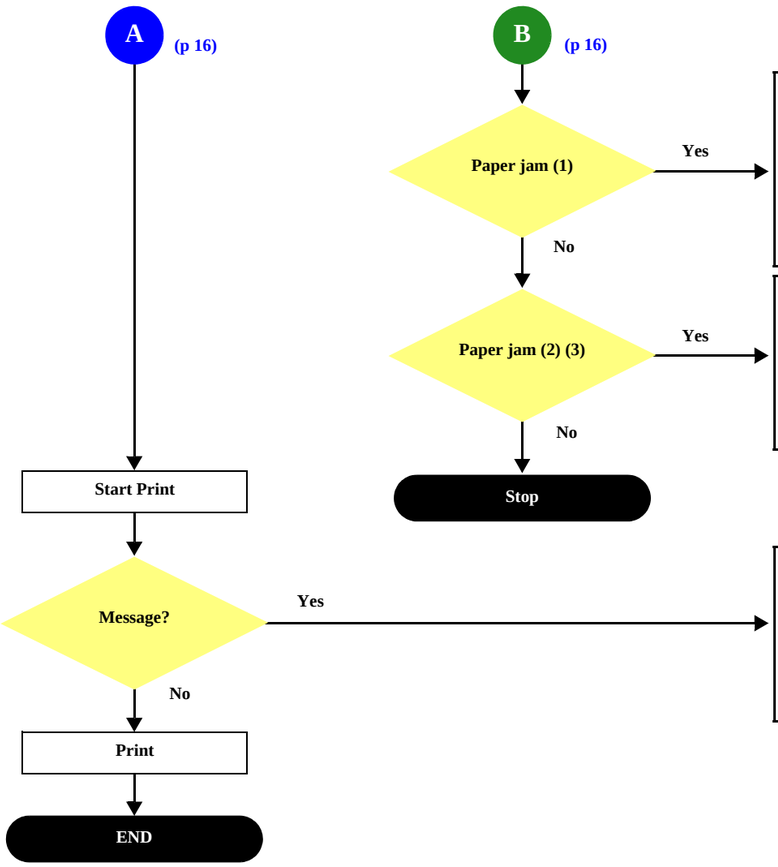
Scanner Error Scanner error. Turn the power off and on again. If the problem persists, visit Epson.com for technical support. **100016**	Home position detection error	■ SCN CR cannot move to the home position because load is too large. ■ CIS is broken (cannot read the white standard pattern and home position pattern).
Scanner Error Scanner error. Turn the power off and on again. If the problem persists, visit Epson.com for technical support. **100017**	Contact detection distance exceeded	■ Contact detection to the right side has not been completed properly. ■ Timing Belt is broken. ■ SCN Motor Wheel Train is detached or broken.
Scanner Error Scanner error. Turn the power off and on again. If the problem persists, visit Epson.com for technical support. **100032**	LED light lighting failure	■ SCN FFC disconnection, breakage, slant connection, or damaged contact (CN70). ■ CIS is broken.

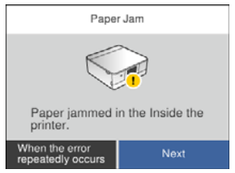
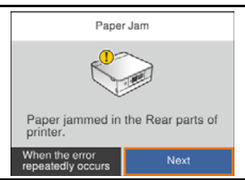
Note: "*1": CIS does not light up.
"*2": CIS lights in greenish white.

1.1.1.6 Workflow for Errors when Printing Starts: XP-6000/XP-6001/XP-6005



	Upper Tray sticks out approximately 20 mm. Note: Different from the previous models; paper feeding/printing starts without any error.	■ Upper Tray Sensor Cable is disconnected (CN12), improve or replace the cable. ■ Replace the Upper Tray Sensor. ■ Replace the Main Board.
	Extend the Output Tray until it stops. Print starts.	Check if something is placed in front of the Lower Tray/Upper Tray/Panel Assy or any obstacle exists in the Stacker Assy motion range.
	Fatal Error: 000140 to 000144/000150 to 000153 Fatal Error of the Paper Ejection Tray (Stacker Assy) driving system	■ Stacker Assy Sensor Cable disconnected (CN12), improve or replace the cable. ■ Replace the Stacker Assy Sensor. ■ Replace the Stacker Assy Motor and/or Stacker Assy Encoder Sensor. ■ Replace the Main Board.
	Upper Tray sticks out approximately 20 mm. Note: Different from the previous models; paper feeding/printing starts without any error. It will occur again if you push the Upper Tray back in after the first sticking out.	■ Upper Tray Sensor Cable disconnected (CN12), improve or replace the cable. ■ Replace the Upper Tray Sensor. ■ Replace the Main Board.
	■ Paper out in the Lower Tray ■ The leading edge cannot be detected with the PE Sensor in the range of the standard movement.	■ Refill paper to the Lower Tray and set the tray back in place fully. ■ PE Sensor FFC disconnected, breakage, slant connection, damaged contact (CN10). ■ Replace the PE Sensor. ■ Replace the Sub Board. ■ Replace the Main Board.
	■ Paper out in the Upper Tray ■ The leading edge cannot be detected with PE Sensor in the range of the standard movement.	■ Refill paper to the Upper Tray and set the tray back in place fully. ■ PE Sensor FFC disconnection, breakage, slant connection, damaged contact (CN10). ■ Replace the PE Sensor. ■ Replace the Sub Board. ■ Replace the Main Board.



	■ Paper jam occurred between the Lower Tray/Upper Tray and the PE Sensor. ■ PE Sensor, PW Sensor error ■ CR system Fatal Error	■ Remove the foreign objects. ■ PE Sensor/PW Sensor FFC disconnection, breakage, slant connection, damaged contact (CN10/CN30). ■ Replace the PE Sensor/PW Sensor. ■ Troubleshoot and repair the CR system Fatal Error. ■ Replace the Sub Board. ■ Replace the Main Board.
	Paper jam occurred while reversing paper or backside ejecting during paper feeding of duplex printing.	■ Remove the foreign objects. ■ Replace the Upper Tray Sensor.
	■ Fatal Error: Head temperature error (031004) ■ Fatal Error: Head Hot error (before printing) (031001) ■ Fatal Error: Head Hot error (after flushing) (031002) Note: Head Hot error does not occur when the signals do not flow fully because part or all of the contact of FFC is covered by foreign objects or the like.	1. Check the Head FFC state (CN42). 2. Replace the Head. 3. Replace the Main Board. Note: Check the procedure in order.

1.2 Power-On Sequence

This section describes the power-on sequences as reference for troubleshooting. The preconditions are as follows.

- ☐ Condition: Power-on sequence (See Table 1-1.)
  - ■ No error occurred when you turned on the printer last time and it has been correctly turned off.
  - ■ Initial ink charge was done and every cartridge has sufficient ink.
  - ■ No paper on the paper path.
  - ■ The Printhead is capped.
  - ■ The Carriage is normally fixed by the CR Lock.
  - ■ Maintenance error recovery has never been performed.
  - ■ Upper Tray is not at the paper feed position.
  - ■ CD-R tray is not inserted.

Table 1-1. Normal Power-on Sequence

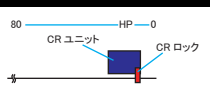
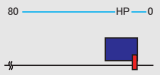
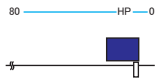
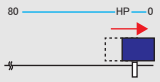
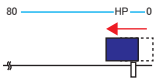
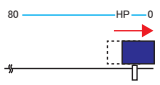
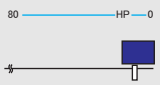
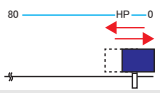
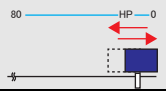
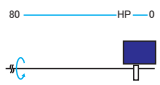
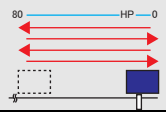
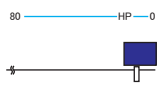
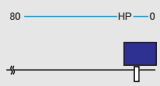
Operation*1	CR Unit/PF Roller movement and position*2
1. Printhead initialization and fuse inspection 1-1.Initializes the Printhead, and checks for the fuse on the circuit boards in the printer.*3	
2. Checking for waste ink overflow 2-1.Checks the waste ink counter if the waste ink overflow is occurring.	
3. Releasing the CR Lock 3-1.The I/S_APG Motor rotates counterclockwise and releases the CR Lock.	
4. Seeking the home position 4-1.The CR Unit moves to the 0-digit side slowly and confirms it touches the Right Frame.	
4-2.The CR Unit moves to the 80-digit side slowly and confirms it does not touch the foreign material, such as remaining paper.	
4-3.The PF Motor rotates clockwise and resets the Upper Tray Trigger Lever.	
4-4.The CR Unit moves to the 0-digit side slowly and checks it touches the Right Frame.	
4-5.The distance from the position where the CR Unit touched to the Left Frame is regarded as the standard distance from the origin position, and the home position is fixed. From then on, the CR Unit position is monitored according to the signals from the CR Encoder.	
4-6.The CR Unit moves to the 80-digit side slowly and then moves to 0-digit side home position.	
4-7.The CR Unit repeats the same movement.	
5. Low temperature operation sequence *4 5-1.The PF Motor rotates clockwise and ejects the CD-R Tray.	
5-2.The CR Unit moves back and forth quickly to near the left frame two times.	
6. APG reset 6-1.The I/S_APG Motor drives and resets the PG position to PG-.	
7. Ink system performance while power on*5 7-1.Check the remaining amount of the ink and the capacity of the Maintenance Box.	

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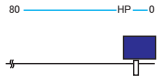
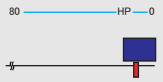
Table 1-1. Normal Power-on Sequence

Operation*1	CR Unit/PF Roller movement and position*2
8. CR Lock set	
8-1.The CR Unit goes back to the home position.	
8-2.The I/S_APG Motor rotates clockwise and lock the CR Unit with the CR Lock.	

Note *1: The rotation directions of the PF Motor are as follows.
Clockwise: Paper is fed normally
Counterclockwise: Paper is fed backward

*2: The conditions of the CR Lock are as follows.
Red: CR Lock is set
White: CR Lock is released

*3: The fatal error occurs if there is a problem such as the fuse blew.

*4: Executed when the detected temperature is under 5 ^{o}C (41^{o}F) by the thermistor on the Printhead.

*5: The empty suction operation may occur depending on situations.

1.3 Fatal Error Code List

This section describes how to check the fatal error code, description, and the possible causes.

1.3.1 Displaying the Fatal Error Code

The fatal error code is stored in the EEPROM on the Main Board and can be read out using the Adjustment Program. When a fatal error occurs, this product displays the fatal error code automatically on the panel LCD.

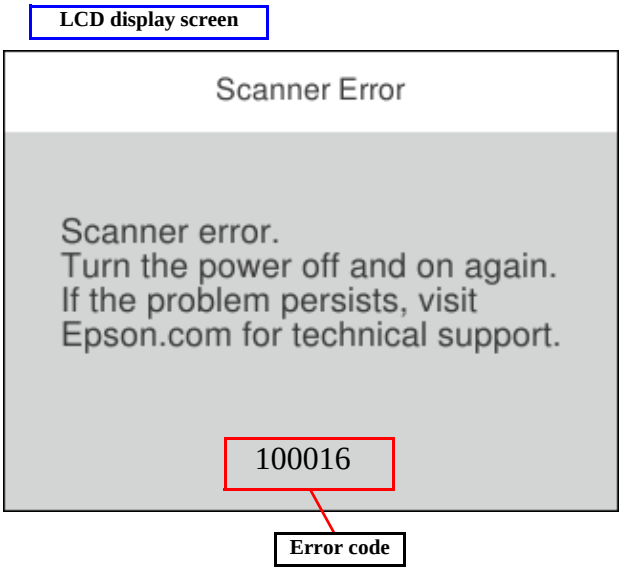


Figure 1-1. Indication of the fatal error code

1.4 Power-On Sequence

This section describes the power-on sequences as reference for troubleshooting. The preconditions are as follows.

- Condition: Power-on sequence (See Table 1-1.)
  - No error occurred when you turned on the printer last time and it has been correctly turned off.
  - Initial ink charge was done and every cartridge has sufficient ink.
  - No paper on the paper path.
  - The Printhead is capped.
  - The Carriage is normally fixed by the CR Lock.
  - Maintenance error recovery has never been performed.
  - Upper Tray is not at the paper feed position.
  - CD-R tray is not inserted.

Table 1-2. Normal Power-on Sequence

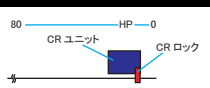
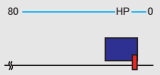
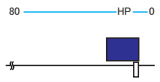
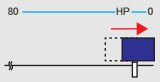
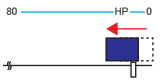
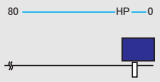
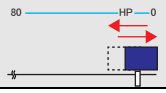
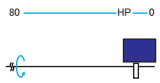
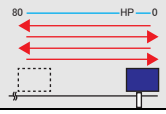
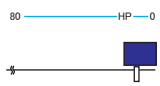
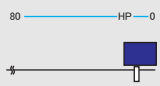
Operation*1	CR Unit/PF Roller movement and position*2
1. Printhead initialization and fuse inspection 1-1.Initializes the Printhead, and checks for the fuse on the circuit boards in the printer.*3	
2. Checking for waste ink overflow 2-1.Checks the waste ink counter if the waste ink overflow is occurring.	
3. Releasing the CR Lock 3-1.The I/S_APG Motor rotates counterclockwise and releases the CR Lock.	
4. Seeking the home position 4-1.The CR Unit moves to the 0-digit side slowly and confirms it touches the Right Frame.	
4-2.The CR Unit moves to the 80-digit side slowly and confirms it does not touch the foreign material, such as remaining paper.	
4-3.The PF Motor rotates clockwise and resets the Upper Tray Trigger Lever.	
4-4.The CR Unit moves to the 0-digit side slowly and checks it touches the Right Frame.	
4-5.The distance from the position where the CR Unit touched to the Left Frame is regarded as the standard distance from the origin position, and the home position is fixed. From then on, the CR Unit position is monitored according to the signals from the CR Encoder.	
4-6.The CR Unit moves to the 80-digit side slowly and then moves to 0-digit side home position.	
4-7.The CR Unit repeats the same movement.	
5. Low temperature operation sequence *4 5-1.The PF Motor rotates clockwise and ejects the CD-R Tray.	
5-2.The CR Unit moves back and forth quickly to near the left frame two times.	
6. APG reset 6-1.The I/S_APG Motor drives and resets the PG position to PG-.	
7. Ink system performance while power on*5 7-1.Check the remaining amount of the ink and the capacity of the Maintenance Box.	

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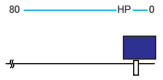
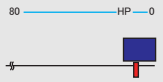
Table 1-2. Normal Power-on Sequence

Operation*1	CR Unit/PF Roller movement and position*2
8. CR Lock set	
8-1.The CR Unit goes back to the home position.	
8-2.The I/S_APG Motor rotates clockwise and lock the CR Unit with the CR Lock.	

Note *1: The rotation directions of the PF Motor are as follows.
Clockwise: Paper is fed normally
Counterclockwise: Paper is fed backward

*2: The conditions of the CR Lock are as follows.
Red: CR Lock is set
White: CR Lock is released

*3: The fatal error occurs if there is a problem such as the fuse blew.

*4: Executed when the detected temperature is under 5 ^{o}C (41^{o}F) by the thermistor on the Printhead.

*5: The empty suction operation may occur depending on situations.

1.5 Fatal Error Code List

This section describes how to check the fatal error code, description, and the possible causes.

1.5.1 Displaying the Fatal Error Code

The fatal error code is stored in the EEPROM on the Main Board and can be read out using the Adjustment Program. When a fatal error occurs, this product displays the fatal error code automatically on the panel LCD.

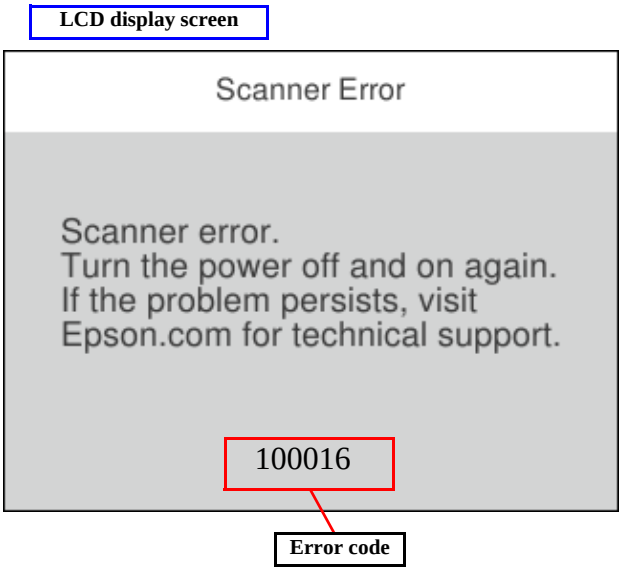


Figure 1-2. Indication of the fatal error code

1.5.2 Fatal Error Code (XP-8500/XP-8505)

This section describes the fatal error code and the possible cause for this product.

- ☐ " Scanner (p43)"
- ☐ " Printer (CR) (p46)"
- ☐ " Printer (PF) (p47)"
- ☐ " Printer (ASF) (p49)"
- ☐ " Printer (I/S_APG) (p51)"
- ☐ " Printer (PW/PE Sensor) (p53)"
- ☐ " Printer (Head/CSIC) (p54)"
- ☐ " Printer (Others) (p55)"
- ☐ " System Error (p55)"

1.5.2.1 Scanner

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100016	HP detection failure	■ The SCN CR could not return to its home. 1. Damage or disengaging of Wheel Train of the Drive Mechanism 2. Disengaging, fraying, jumping of the Timing Belt ■ Failed to read the white standard/home patterns. 3. Disconnection, break, skew or damage of the SCN FFC 4. Failure of the CIS Unit 5. Failure of the SCN Housing 6. Failure of the Main Board	1. Turn the power on with the Document Cover opened. 2. Check if the CIS moves to the left to read the white standard/home patterns. 3. Check if the emission color of the CIS is white (not greenish, reddish, or bluish). If the light does not look like white, check the SCN FFC for damage, disconnection or skew. 4. Replace the SCN Unit with a new one. 5. Replace the Main Board with a new one.	Main Board CN70 CN71
100017	Contact detection distance exceeded	■ The SCN CR cannot completely reach the home (right side). 1. Damage or disengaging of Wheel Train of the Drive Mechanism 2. Disengaging, fraying, jumping of the Timing Belt ■ Failure of SCN Encoder reading 3. Damage or skew of the SCN FFC 4. Failure of the CIS Unit 5. Failure of the SCN Housing 6. Failure of the Main Board	1. Turn the power on with the Document Cover opened. 2. Check if the CIS (CR) reaches (comes in contact with) the right side. 3. When CIS do not move. 3-1.Disengaging, fraying, jumping of the Timing Belt. 3-2.Check the Wheel Train of the Drive Mechanism for damage. 4. Check the SCN FFC for damage, disconnection or skew. 5. Replace the SCN Unit with a new one. 6. Replace the Main Board with a new one.	Main Board CN70 CN71
100018	Opposite side contact detection distance exceeded error	Never occurs because Opposite side contact detection operation is not performed for this product.	---	---
100018	Opposite side contact detection distance error	Never occurs because Opposite side contact detection operation is not performed for this product.	---	---
100020	Measurement error	■ Overload of the SCN Drive Mechanism ■ Failure of the SCN Motor	1. Check if the CIS (CR) moves or not. 1-1.Check the Timing Belt for fraying or looseness. 1-2.Check the Wheel Train of the Drive Mechanism for damage. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	---

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100032	LED light failure	■ Failure of the CIS LED light (RGB) ☐ How the lamp looks and the error • Blue Off: 100032 (lamp is yellow to green) • Red OFF: 100032 (lamp is blue to green) • Green OFF: 100032 (lamp is red to purple) • not lit: 100032 (does not lit) 1. Disconnection, break, skew or damage of the SCN FFC 2. Failure of the CIS Unit 3. Failure of the Main Board	1. Check the color of the LED at power-on. 2. Check the SCN FFC for damage, disconnection or skew. 3. Replace the SCN Unit with a new one. 4. Replace the Main Board with a new one.	Main Board CN70
100065	FB PID excess speed error	■ Failure of SCN Encoder reading 1. Contamination of the SCN Encoder Scale 2. Damage or skew of the SCN FFC 3. Failure of the SCN Encoder Sensor ■ Failure of the SCN Motor Driver 4. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100066	FB PID reverse error	■ Operation failure of the SCN Motor 1. Malfunction of the SCN ☐ Disengaging of the SCN CR ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Damage or skew of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100067	FB PID lock error	■ The SCN Motor did not run. 1. The scanning operation was stopped by; ☐ Disengaging of the SCN CR ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Damage or skew of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the SCN Motor 6. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100068	FB PID acceleration lock error	■ The SCN Motor did not run. 1. The scanning operation was stopped by; ☐ Disengaging of the SCN CR ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Damage or skew of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the SCN Motor 6. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100069	FB PID excess load error	■ The SCN Motor stopped running in the middle of the operation. 1. The scanning operation was stopped by; ☐ Disengaging of the SCN CR ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Disconnection, break, skew or damage of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the SCN Motor 6. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100070	FB PID driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
100073	FB BS+ excess speed error	■ Failure of SCN Encoder reading 1. Contamination of the SCN Encoder Scale 2. Damage or skew of the SCN FFC 3. Failure of the SCN Encoder Sensor ■ Failure of the SCN Motor Driver 4. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100074	FB BS+ reverse error	■ Operation failure of the SCN Motor. 1. Malfunction of the SCN 2. Disengaging of the SCN CR. 3. Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 4. Contamination of the SCN Encoder 5. Damage or skew of the SCN FFC 6. Failure of the SCN Encoder Sensor 7. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100075	FB BS+ lock error	■ The SCN Motor did not run. 1. The scanning operation was stopped by; ☐ Disengaging of the SCN CR ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Damage or skew of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the SCN Motor 6. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100077	FB BS+ excess load error	■ The SCN Motor stopped running in the middle of the operation. 1. The scanning operation was stopped by; ☐ Disengaging of the SCN CR ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Disconnection, break, skew or damage of the SCN FFC 4. Failure of the SCN Encoder Sensor. 5. Failure of the SCN Motor. 6. Failure of the Main Board.	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100078	FB BS+ driving time error	Malfunction or crash of the firmware.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---

1.5.2.2 Printer (CR)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000020	CR PID driving time error	Malfunction or crash of the firmware.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000021	CR PID excess load error	■ The CR Motor stopped running in the middle of the operation. 1. The CR was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Interfere with the Ink system ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging or breakage of the gears. ☐ APG Sensor failure, Sensor FFC disconnected ■ Failure of CR Encoder reading 2. Contamination of the CR Encoder Scale 3. Failure of the CR Motor (not completely broken) 4. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR Lock and Ink system for any abnormality. 3. Check the Timing Belt for fraying or looseness. 4. Check the load applied to the CR by moving it by hand. 5. Check if the lubricant on the CR shaft is adequate. 6. Check the CR Drive Mechanism. 7. Clean the CR Encoder Scale if it is contaminated. 8. Replace the CR Motor with a new one. 9. Replace the Main Board with a new one.	Main Board CN30 CN901
000022	CR PID excess speed error	■ Failure of CR Encoder reading 1. Contamination of the CR Encoder Scale 2. Damage or skew of the CR Encoder FFC 3. Failure of the CR Encoder Sensor ■ Failure of the CR Motor Driver ■ Failure of the Main Board	1. Clean the CR Encoder Scale if it is contaminated. 2. Check the FFC of the CR Encoder. 3. Replace the CR Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN30 CN901
000023	CR PID reverse error	■ Operation failure of the CR Motor, interrupted by obstacles 1. CR was stopped by; ☐ Obstacles such as jammed paper ☐ Interfere with the Ink system ☐ Disengaging or breakage of the gears ■ Failure of CR Encoder reading 2. Jumping of the CR Timing Belt 3. Contamination of the CR Encoder Scale 4. Damage or skew of the CR Encoder FFC 5. Failure of the CR Encoder Sensor 6. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR Lock and Ink system for any abnormality. 3. Check the Timing Belt for fraying or looseness. 4. Clean the CR Encoder Scale if it is contaminated. 5. Check the CR Encoder FFC or the connector. 6. Replace the CR Encoder Sensor with a new one. 7. Replace the Main Board with a new one.	Main Board CN30 CN901
000024	CR PID lock error	■ The CR Motor did not run, or the CR could not move smoothly. 1. Overload of the CR ■ Failure of CR Encoder reading 2. The Timing Belt become frayed or jumping 3. Contamination of the CR Encoder Scale 4. Disconnection, break, skew or damage of the CR Encoder FFC 5. Failure of the CR Encoder Sensor 6. Failure of the CR Motor (the lead wire is broken or the connector is disconnected) 7. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Move the CR by hand to see if it moves smoothly without getting stuck. 3. Check the Timing Belt for fraying or looseness. 4. Clean the CR Encoder Scale if it is contaminated. 5. Check the connector and the CR Encoder FFC for damage. 6. Replace the CR Encoder FFC with a new one. 7. Check the connector of the CR Motor. 8. Replace the CR Motor with a new one. 9. Replace the Main Board with a new one.	Main Board CN30 CN901

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000025	CR PID speed fall error	■ Operation failure of the CR. 1. The CR was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Interfere with the Ink system. ■ Failure of CR Encoder reading 2. The Timing Belt become loosened or jumping 3. Contamination of the CR Encoder Scale 4. Damage or skew of the CR Encoder FFC 5. Failure of the CR Motor 6. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR Lock and Ink system for any abnormality. 3. Check the Timing Belt for looseness. 4. Clean the CR Encoder Scale if it is contaminated. 5. Check the connector of the CR Encoder FFC. 6. Replace the CR Motor with a new one. 7. Replace the Main Board with a new one.	Main Board CN30 CN901
000030	CR load position driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000031	CR load position excess load error	■ The CR Motor stopped running in the middle of the operation. 1. The CR was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Interfere with the Ink system ☐ Disengaging or breakage of the gears ☐ Disengaging, fraying, jumping of the Timing Belt ■ Failure of CR Encoder reading 2. Contamination of the CR Encoder Scale 3. Failure of the CR Motor (not completely broken) 4. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR Lock and Ink system for any abnormality. 3. Check the Timing Belt for fraying or looseness. 4. Check the load applied to the CR by moving it by hand. 5. Check if the lubricant on the CR shaft is adequate. 6. Check the CR Drive Mechanism. 7. Clean the CR Encoder Scale if it is contaminated. 8. Replace the CR Motor with a new one. 9. Replace the Main Board with a new one.	Main Board CN30 CN901
000032	CR load position excess speed error	■ Failure of CR Encoder reading 1. Contamination of the CR Encoder Scale 2. Damage or skew of the CR Encoder FFC 3. Failure of the CR Encoder Sensor ■ Failure of the CR Motor Driver 4. Failure of the Main Board	1. Clean the CR Encoder Scale if it is contaminated. 2. Check the FFC of the CR Encoder. 3. Replace the CR Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN30 CN901
000033	CR load position reverse error	■ Operation failure of the CR Motor, interrupted by obstacles 1. CR was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Interfere with the Ink system ■ Failure of CR Encoder reading 2. Jumping of the CR Timing Belt 3. Contamination of the CR Encoder Scale 4. Damage or skew of the CR Encoder FFC 5. Failure of the CR Encoder Sensor 6. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR Lock and Ink system for any abnormality. 3. Check the Timing Belt for fraying or looseness. 4. Clean the CR Encoder Scale if it is contaminated. 5. Check the CR Encoder FFC or the connector. 6. Replace the CR Encoder Sensor with a new one. 7. Replace the Main Board with a new one.	Main Board CN30 CN901

1.5.2.3 Printer (PF)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000040	PF PID driving time error	Malfunction or crash of the firmware ☐ The PE Sensor remains in paper detection status and a paper jam error occurs instead of causing a fatal error.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000041	PF PID excess load error	■ The PF Motor stopped running in the middle of the operation. 1. The PF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Paper Feed Mechanism ☐ Disengaging or breakage of the gears ■ Failure of PF Encoder reading 2. The Timing Belt become frayed or jumping 3. Contamination of the PF Encoder Scale 4. Disconnection, break, skew or damage of the PF Motor Cable/Encoder FFC 5. Failure of the PF Motor (not completely broken) 6. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the Paper Feed Mechanism. 3. Check the Wheel Train of the PF Drive and the Timing Belt for fraying or looseness. 4. Check the PF Encoder Scale for damage or contamination. 5. Check the PF Encoder FFC or the connector. 6. Replace the PF Motor with a new one. 7. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902
000042	PF PID excess speed error	■ Failure of PF Encoder reading 1. Contamination of the PF Encoder Scale 2. Skew or damage of the PF Encoder FFC 3. Failure of the PF Encoder Sensor ■ Failure of the PF Motor Driver 4. Failure of the Main Board	1. Clean the PF Encoder Scale if it is contaminated. 2. Check the PF Encoder FFC or the connector. 3. Replace the PF Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902
000043	PF PID reverse error	■ Paper feed fails, interrupted by obstacles 1. Paper feed was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Paper Feed Mechanism ☐ Disengaging or tooth breakage of Wheel Train of the Paper Feed Mechanism ■ Failure of PF Encoder reading 2. Jumping of the PF Timing Belt 3. Contamination of the PF Encoder Scale 4. Skew or damage of the PF Encoder FFC 5. Failure of the PF Encoder Sensor 6. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the Paper Feed Mechanism. 3. Check the Wheel Train of the PF Drive and the Timing Belt. 4. Clean the PF Encoder Scale if it is contaminated. 5. Check the PF Encoder FFC or the connector. 6. Replace the PF Encoder Sensor with a new one. 7. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902
000044	PF PID lock error	■ The PF Motor did not run or obstacles exist in the paper path. 1. Overload of the Paper Feed Mechanism 2. The PF Timing Belt become frayed, jumping, or the Wheel Train of Paper Feed Mechanism is disengaged or its tooth is broken. ■ Failure of PF Encoder reading 3. Contamination of the PF Encoder Scale 4. Disconnection, break, skew or damage of the PF Encoder FFC 5. Failure of the PF Encoder Sensor 6. Failure of the PF Motor (the lead wire is broken or the connector is disconnected) 7. Failure of the Main Board	1. Check that no jammed paper exist in the paper path. 2. Check the load of the PF. 3. Check the Wheel Train of the PF Drive and the Timing Belt for fraying or looseness. 4. Clean the PF Encoder Scale if it is contaminated. 5. Check the PF Encoder FFC or the connector. 6. Replace the PF Encoder Sensor with a new one. 7. Check the connector of the PF Motor. 8. Replace the PF Motor with a new one 9. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902
000050	PF load position driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000051	PF load position excess load error	■ The PF Motor stopped running in the middle of the operation. 1. The PF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Paper Feed Mechanism ☐ Disengaging or breakage of the gears ■ Failure of PF Encoder reading 2. Jumping of the Timing Belt 3. Contamination of the PF Encoder Scale 4. Failure of the PF Motor (not completely broken) 5. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the Paper Feed Mechanism. 3. Check the Wheel Train of the PF Drive and the Timing Belt for fraying or looseness. 4. Clean the PF Encoder Scale if it is contaminated. 5. Replace the PF Motor with a new one 6. Replace the Main Board with a new one.	---

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000052	PF load position excess speed error	■ Failure of PF Encoder reading 1. Contamination of the PF Encoder Scale 2. Skew or damage of the PF Encoder FFC 3. Failure of the PF Encoder Sensor ■ Failure of the PF Motor Driver 4. Failure of the Main Board	1. Clean the PF Encoder Scale if it is contaminated. 2. Check the PF Encoder FFC or the connector. 3. Replace the PF Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902
000053	PF load position reverse error	■ Paper feed fails, interrupted by obstacles 1. Paper feed was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Paper Feed Mechanism ☐ Disengaging or tooth breakage of Wheel Train of the Paper Feed Mechanism ■ Failure of PF Encoder reading 2. Jumping of the PF Timing Belt 3. Contamination of the PF Encoder Scale 4. Skew or damage of the PF Encoder FFC 5. Failure of the PF Encoder Sensor 6. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the Paper Feed Mechanism. 3. Check the Wheel Train of the PF Drive and the Timing Belt for fraying or looseness. 4. Clean the PF Encoder Scale if it is contaminated. 5. Check the PF Encoder FFC or the connector. 6. Replace the PF Encoder Sensor with a new one. 7. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902

1.5.2.4 Printer (ASF)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000060	ASF PID driving time error	Malfunction or crash of the firmware.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000061	ASF PID excess load error	■ The ASF Motor stopped running in the middle of the operation. 1. The ASF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of ASF Encoder reading 2. Disconnection or contamination of the ASF Encoder Scale 3. Disconnection, break, skew or damage of the ASF Motor Cable/ASF Encoder FFC 4. Failure of the ASF Encoder Sensor 5. Failure of the ASF Motor (not completely broken) 6. Failure of the Main Board	1. Check that no obstacle exist in the ASF motion range. 2. Check the ASF Drive Wheel Train. 3. Check the ADF Encoder Scale for disconnection or contamination. Clean the Encoder Scale if it is contaminated. 4. Check the cable/FFC of the ASF Motor/ encoder. 5. Replace the ASF Encoder Sensor with a new one. 6. Replace the ASF Motor with a new one. 7. Replace the Main Board with a new one.	Main Board CN16 CN27
000062	ASF PID excess speed error	■ Failure of ASF Encoder reading 1. Contamination of the ASF Encoder Scale 2. Damage or skew of the ASF Motor Cable/ Encoder FFC 3. Failure of the ASF Encoder Sensor ■ Failure of the ASF Motor Driver 4. Failure of the Main Board	1. Clean the ASF Encoder Scale if it is contaminated. 2. Check the cable/FFC of the ASF Motor/ encoder. 3. Replace the ASF Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN16 CN27
000063	ASF PID reverse error	■ Paper loading fails, interrupted by obstacles 1. The ASF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of ASF Encoder reading 2. Contamination of the ASF Encoder Scale 3. Damage or skew of the ASF Motor Cable/ Encoder FFC 4. Failure of the ASF Encoder Sensor 5. Failure of the Main Board	1. Check that no obstacle exist in the ASF motion range. 2. Check the ASF Drive Wheel Train. 3. Clean the ASF Encoder Scale if it is contaminated. 4. Check the cable/FFC of the ASF Motor/ encoder. 5. Replace the ASF Encoder Sensor with a new one. 6. Replace the Main Board with a new one.	Main Board CN16 CN27

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000064	ASF PID lock error	■ The ASF Motor did not run. 1. The ASF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of ASF Encoder reading 2. Contamination of the ASF Encoder Scale 3. Disconnection, break, skew or damage of the ASF Motor Cable/Encoder FFC 4. Failure of the ASF Encoder Sensor 5. Failure of the ASF Motor (the lead wire is broken or the connector is disconnected) 6. Failure of the Main Board	1. Check that no obstacle exist in the ASF motion range. 2. Check the ASF Drive Wheel Train. 3. Clean the ASF Encoder Scale if it is contaminated. 4. Check the cable/FFC of the ASF Motor/ encoder. 5. Replace the ASF Encoder Sensor with a new one. 6. Replace the ASF Motor with a new one. 7. Replace the Main Board with a new one.	Main Board CN16 CN27
000070	ASF load position driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000071	ASF load position excess load error	■ The ASF Motor stopped running in the middle of the operation. 1. The ASF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of ASF Encoder reading 2. Contamination of the ASF Encoder Scale 3. Failure of the ASF Encoder Sensor 4. Failure of the ASF Motor (not completely broken) 5. Failure of the Main Board	1. Check that no obstacle exist in the ASF motion range. 2. Check the load of the ASF paper feed Mechanism. 3. Clean the ASF Encoder Scale if it is contaminated. 4. Replace the ASF Encoder Sensor with a new one. 5. Replace the ASF Motor with a new one. 6. Replace the Main Board with a new one.	Main Board CN16 CN27
000072	ASF load position excess speed error	■ Failure of ASF Encoder reading 1. Contamination of the ASF Encoder Scale 2. Damage or skew of the ASF Motor Cable/ Encoder FFC 3. Failure of the ASF Encoder Sensor ■ Failure of the ASF Motor Driver 4. Failure of the Main Board	1. Clean the ASF Encoder Scale if it is contaminated. 2. Check the cable/FFC of the ASF Motor/ encoder. 3. Replace the ASF Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN16 CN27
000073	ASF load position reverse error	■ Paper loading fails, interrupted by obstacles 1. The ASF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of ASF Encoder reading 1. Contamination of the ASF Motor Encoder Scale 2. Damage or skew of the ASF Motor Cable/ Encoder FFC 3. Failure of the ASF Motor Encoder 4. Failure of the Main Board	1. Check that no obstacle exist in the ASF motion range. 2. Check the ASF Drive Wheel Train. 3. Clean the ASF Encoder Scale if it is contaminated. 4. Check the cable/FFC of the ASF Motor/ encoder. 5. Replace the ASF Encoder Sensor with a new one. 6. Replace the Main Board with a new one.	Main Board CN16 CN27

1.5.2.5 Printer (I/S_APG)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000100	I/S PID driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000101	I/S PID excess load error	■ The I/S_APG Motor stopped running in the middle of the operation. 1. The Ink system was stopped by; ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of I/S_APG Encoder reading 2. Contamination of the I/S_APG Encoder Scale 3. Failure of the I/S_APG Motor (not completely broken) 4. Failure of the Main Board	1. Check the load applied to the I/S_APG Motor by moving it by hand. 2. Check the Wheel Train of the I/S and the APG Drive for disengage or crack. 3. Clean the I/S_APG Encoder Scale if it is contaminated. 4. Replace the I/S_APG Motor with a new one. 5. Replace the Main Board with a new one.	---
000102	I/S PID excess speed error	■ Failure of I/S_APG Encoder reading 1. Contamination of the I/S_APG Encoder Scale 2. Damage or skew of the I/S_APG Encoder FFC 3. Failure of the I/S_APG Encoder Sensor ■ Failure of the I/S_APG Motor Driver 4. Failure of the Main Board	1. Clean the I/S_APG Encoder Scale if it is contaminated. 2. Check the I/S_APG Encoder FFC or the connector. 3. Replace the I/S_APG Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Relay Board CN21 Main Board CN903
000103	I/S PID reverse error	■ Operation failure of the I/S_APG Motor, interrupted by obstacles 1. The Ink system was stopped by; ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of I/S_APG Encoder reading 2. Contamination of the I/S_APG Encoder Scale 3. Damage or skew of the I/S_APG Motor Cable/ I/S_APG Encoder FFC 4. Failure of the I/S_APG Encoder Sensor. 5. Failure of the Main Board.	1. Check the load applied to the I/S_APG Motor by moving it by hand. 2. Check the Wheel Train of the I/S and the Drive for tooth breakage or disengaging. 3. Clean the I/S_APG Encoder Scale if it is contaminated. 4. Check the cable/FFC of the I/S_APG Motor/Encoder. 5. Replace the Ink system with a new one. 6. Replace the Main Board with a new one.	Relay Board CN21 Main Board CN903
000104	I/S PID lock error	■ The I/S_APG Motor did not run 1. The Ink system was stopped by; ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of I/S_APG Encoder reading 2. Contamination of the I/S_APG Encoder Scale 3. Break, skew or damage of the I/S_APG Motor Cable/I/S_APG Encoder FFC. 4. Failure of the I/S_APG Encoder Sensor. 5. Failure of the I/S_APG Motor (the lead wire is broken or the connector is disconnected). 6. Failure of the Main Board.	1. Check the load applied to the I/S_APG Motor by moving it by hand. 2. Check the Wheel Train of the I/S and the APG Drive for tooth breakage or disengaging. 3. Clean the I/S_APG Encoder Scale if it is contaminated. 4. Check the cable/FFC of the I/S_APG Motor/Encoder. 5. Replace the I/S_APG Motor with a new one. 6. Replace the Main Board with a new one.	Relay Board CN21 Main Board CN903
000110	I/S load position driving time error	Malfunction or crash of the firmware.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000111	I/S load position excess load error	■ The I/S_APG Motor stopped running in the middle of the operation. 1. The Ink system was stopped by; ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of I/S_APG Encoder reading 2. Contamination of the I/S_APG Encoder Scale 3. Failure of the I/S_APG Motor (not completely broken) 4. Failure of the Main Board	1. Check the load applied to the I/S_APG Motor by moving it by hand. 2. Check the Wheel Train of the I/S and the APG Drive for disengage or crack. 3. Clean the I/S_APG Encoder Scale if it is contaminated. 4. Replace the I/S_APG Motor with a new one. 5. Replace the Main Board with a new one.	Relay Board CN21 Main Board CN903
000112	I/S load position excess speed error	■ Failure of I/S_APG Encoder reading 1. Contamination of the I/S_APG Encoder Scale 2. Damage or skew of the I/S_APG Encoder FFC 3. Failure of the I/S_APG Encoder Sensor ■ Failure of the I/S_APG Motor Driver 4. Failure of the Main Board/	1. Clean the I/S_APG Encoder Scale if it is contaminated. 2. Check the I/S_APG Encoder FFC or the connector. 3. Replace the I/S_APG Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Relay Board CN21 Main Board CN903

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000113	I/S load position reverse error	■ Operation failure of the I/S_APG Motor, interrupted by obstacles 1. The Ink system was stopped by; ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of I/S_APG Encoder reading 2. Contamination of the I/S_APG Motor Encoder Scale 3. Damage or skew of the I/S_APG Motor Cable/ I/S_APG Encoder FFC 4. Failure of the I/S_APG Encoder Sensor 5. Failure of the Main Board	1. Check the load applied to the I/S_APG Motor by moving it by hand. 2. Check the Wheel Train of the I/S and the APG Drive for tooth breakage or disengaging. 3. Clean the I/S_APG Encoder Scale if it is contaminated. 4. Check the cable/FFC of I/S_APG Motor/ Encoder. 5. Replace the I/S_APG Encoder Sensor with a new one. 6. Replace the Main Board with a new one.	Relay Board CN21 Main Board CN903

☐ Printer (Stacker)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000140	STK PID driving time error	Malfunction or crash of the firmware.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000141	STK PID excess load error	■ The STK Motor stopped running in the middle of the operation. 1. The Stacker was stopped by; ☐ Overload of the STK Assy ☐ Disengaging or breakage of the gear ■ Failure of STK Encoder reading 2. Contamination of the STK Encoder Scale 3. Disconnection, break, skew or damage of the STK Motor Cable/STK Encoder FFC 4. Failure of the STK Motor (not completely broken) 5. Failure of the Main Board	1. Check the load applied to the Stacker Assy by moving it by hand. 2. Check the Wheel Train of the Stacker Assy Drive for disengage or crack. 3. Clean the STK Encoder Scale if it is contaminated. 4. Check the cable/FFC of STK Motor/ Encoder. 5. Replace the STK Motor with a new one. 6. Replace the Main Board with a new one.	Relay Board CN22 CN25
000142	STK PID excess speed error	■ Failure of STK Encoder reading 1. Contamination of the STK Encoder Scale 2. Damage or skew of the STK Motor Cable/STK Encoder FFC 3. Failure of the STK Encoder Sensor ■ Failure of the STK Motor Driver 4. Failure of the Main Board	1. Clean the STK Encoder Scale if it is contaminated. 2. Check the STK Encoder FFC or the connector. 3. Replace the STK Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Relay Board CN22 CN25
000143	STK PID reverse error	■ Operation failure of the STK Motor, interrupted by obstacles 1. The Stacker was stopped by; ☐ Overload of the STK Assy ☐ Disengaging or breakage of the gears ■ Failure of STK Encoder reading 2. Contamination of the STK Encoder Scale 3. Damage or skew of the STK Motor Cable/STK Encoder FFC. 4. Failure of the STK Encoder Sensor 5. Failure of the Main Board	1. Check the load applied to the STK Assy by moving it by hand. 2. Check the Wheel Train of the STK Assy Drive for tooth breakage or disengaging. 3. Clean the STK Encoder Scale if it is contaminated. 4. Check the cable/FFC of STK Motor/ Encoder. 5. Replace the STK Encoder Sensor with a new one. 6. Replace the Main Board with a new one.	Relay Board CN22 CN25

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000144	STK PID lock error	■ The STK Motor did not run. 1. The Stacker was stopped by; ☐ Overload of the STK Assy ☐ Disengaging or breakage of the gears ■ Failure of STK Encoder reading 2. Contamination of the STK Encoder Scale 3. Break, skew or damage of the STK Motor Cable/ STK Encoder FFC 4. Failure of the STK Encoder Sensor 5. Failure of the STK Motor (the lead wire is broken or the connector is disconnected) 6. Failure of the Main Board	1. Check the load applied to the STK Assy by moving it by hand. 2. Check the Wheel Train of the STK Assy Drive for tooth breakage or disengaging. 3. Clean the STK Encoder Scale if it is contaminated. 4. Check the cable/FFC of STK Motor/ Encoder. 5. Replace the STK Encoder Sensor with a new one. 6. Replace the STK Motor with a new one. 7. Replace the Main Board with a new one.	Relay Board CN22 CN25
000150	STK load position driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000151	STK load position excess load error	■ The STK Motor stopped running in the middle of the operation. 1. The Stacker was stopped by; ☐ Overload of the STK Assy ☐ Disengaging or breakage of the gears ■ Failure of STK Encoder reading 2. Contamination of the STK Encoder Scale 3. Break, skew or damage of the STK Motor Cable/ STK Encoder FFC 4. Failure of the STK Motor (not completely broken) 5. Failure of the Main Board	1. Check the load applied to the STK Assy by moving it by hand. 2. Check the Wheel Train of the STK Assy Drive for tooth breakage or disengaging. 3. Clean the STK Encoder Scale if it is contaminated. 4. Check the cable/FFC of STK Motor/ Encoder. 5. Replace the STK Motor with a new one. 6. Replace the Main Board with a new one.	Relay Board CN22 CN25
000152	STK load position excess speed error	■ Failure of STK Encoder reading 1. Contamination of the STK Encoder Scale 2. Damage or skew of the STK Motor Cable/STK Encoder FFC 3. Failure of the STK Encoder Sensor ■ Failure of the STK Motor driver 4. Failure of the Main Board	1. Clean the STK Encoder Scale if it is contaminated. 2. Check the STK Encoder FFC or the connector. 3. Replace the STK Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Relay Board CN22 CN25
000153	STK load position reverse error	■ Operation failure of the STK Motor, interrupted by obstacles 1. The Stacker was stopped by; ☐ Overload of the STK Assy ☐ Disengaging or breakage of the gears ■ Failure of STK Encoder reading 2. Contamination of the STK Motor Encoder Scale 3. Damage or skew of the STK Motor Cable/STK Encoder FFC 4. Failure of the STK Encoder Sensor 5. Failure of the Main Board	1. Check the load applied to the STK Assy by moving it by hand. 2. Check the Wheel Train of the STK Assy Drive for tooth breakage or disengaging. 3. Clean the STK Encoder Scale if it is contaminated. 4. Check the cable/FFC of STK Motor/ Encoder. 5. Replace the STK Encoder Sensor with a new one. 6. Replace the Main Board with a new one.	Relay Board CN22 CN25

1.5.2.6 Printer (PW/PE Sensor)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
030001	PE detector error	■ PE Sensor damage ■ Failure of the Main Board ☐ Occurs when the light value became lower than the threshold value in light value adjustment.	1. Check the PE Sensor for broken cable or unconnected connector. 2. Replace the PE Sensor with a new one. 3. Replace the Main Board with a new one.	Relay Board CN10
030002	PW sensor light value adjust error	■ PW Sensor damage ■ Failure of the Main Board ☐ Cannot detect paper even the light value was raised to maximum in light value adjustment.	1. Check the PW Sensor for broken cable or unconnected connector. 2. Replace the PW Sensor with a new one. 3. Replace the Main Board with a new one.	Main Board CN30

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
030003	PE sensor light value adjust error	■ PE Sensor damage ■ Failure of the Main Board ☐ Cannot detect paper even the light value was raised to maximum in light value adjustment.	1. Check the PE Sensor for broken cable or unconnected connector. 2. Replace the PE Sensor with a new one. 3. Replace the Main Board with a new one.	Relay Board CN10

1.5.2.7 Printer (Head/CSIC)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
031001	HeadHot detect error (before printing)	■ Disconnection, break, skew or damage of the head FFC ■ Overheat of the printhead. 1. Failure of the printhead 2. Failure of the Main Board ☐ Occurs in-between print passes (after printing one pass and before printing the next pass).	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the printhead with a new one. 3. Replace the Main Board with a new one.	Main Board CN40 CN41 CN42 CN43
031002	HeadHot detect error (after flushing)	■ Disconnection, break, skew or damage of the head FFC ■ Overheat of the printhead 1. Failure of the printhead 2. Failure of the Main Board ☐ Occurs every after ink flushing operation. (Flushing before starting printing, flushing after manual cleaning and etc.)	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the printhead with a new one. 3. Replace the Main Board with a new one.	Main Board CN40
031003	Transistor temperature error	■ Failure of the Main Board ☐ Occurs after receiving a print job and starting printing.	Replace the Main Board with a new one.	Main Board CN42
031004	Head temperature error	■ Disconnection, break, skew or damage of the head FFC ☐ Occurs after receiving a print job and starting printing. • Failure of the thermistor inside the printhead • Temperature around the printhead is out of the range from -20 to 80 degrees C.	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the printhead with a new one. 3. Replace the Main Board with a new one.	Main Board CN42
031005	Head hot detect error (when changing ink)	■ Disconnection, break, skew or damage of the head FFC ■ Overheat of the printhead 1. Failure of the printhead 2. Failure of the Main Board ■ Occurs when changing the Ink Cartridge. (When cartridge moved to the replacing position.)	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the printhead with a new one. 1. Replace the Main Board with a new one.	Main Board CN40
031006	Blowout of a fuse error (Head)	■ Failure of the power source for the printhead. 1. Failure of the circuit. ☐ Disconnection, break, skew, or damage of the head FFC 2. Blowout of fuse on the Main Board. ☐ Failure of the printhead. • Occurs at power-on, when replacing the ink cartridge, in-between print passes, and after flushing operation.	1. If the fuse has not blown out • Check the head FFC for disconnection, break, skew or damage. 2. If the fuse has blown out • Replace the Main Board with a new one. 3. In the other cases • Replace the printhead with a new one.	Main Board CN42
033001	Blowout of a fuse error (CRCM)	■ Failure of the Main Board ☐ Occurs at power-on, and during operation for replacing the ink cartridge.	1. Check the CRCM FFC for disconnection, break, skew or damage. 2. If the error still occurs after the restart, replace the Main Board.	Main Board CN49

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
033003	Other Ink device error	■ Error in the printer settings ■ Failure of the Main Board □ Occurs at power-on.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	-----
033004	Other Ink device error			
033005	Other Ink device error			
033006	CRCM access error (Hard factor)	■ Disconnection, break, skew or damage of the CRCM FFC ■ Failure of the CSIC terminal/CR contact module ■ Failure of the Main Board	1. Check the CRCM FFC for disconnection, break, skew or damage. 2. If the error still occurs after the restart, replace the Main Board.	Main Board CN49
033007	CRCM access error (Hard factor)			
033008	CRCM access error (Firm factor)	This error will not be indicated, only process occurs.	---	---
033010	CSIC access error (Hard factor)	■ Disconnection, break, skew or damage of the CRCM FFC ■ Failure of the CSIC terminal/CR contact module ■ Failure of the Main Board (mismatch of the printer settings that cannot be changed when repairing the printer) □ Occurs at power-on	1. Check the CRCM FFC for disconnection, break, skew or damage. 2. If the error still occurs after the restart, replace the Main Board.	Main Board CN49

1.5.2.8 Printer (Others)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
034001	Home position seek error	This error code is not displayed but the error history is saved. ■ The carriage does not move 1. Overload of the Carriage Drive Mechanism (paper jam, foreign object) 2. Failure of the Ink system 3. Failure of the CR Motor 4. Failure of the Main Board	1. Check that no obstacles or paper exist in the carriage motion range. 2. Manually unlock the carriage. (If unlocking is impossible, the problem caused by failure of the Ink system.) 3. Check the load applied to the CR by moving it by hand. 4. Turn the printer on and check if the carriage moves. If it still does not move, the motor is broken or failure of the Main Board.	---
060001	Error caused by other than printer device	This error code will not be indicated.	---	---
060002	Driver mismatch error	■ Non-supported printer driver ■ Mismatch between custom printer driver and custom printer	Check the OS and the version of the printer driver.	---
060003	Error due to PCD verify command	Failure of the Main Board	Replace the Main Board with a new one.	---

1.5.2.9 System Error

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
202620	Wi-Fi Board failure	Failure or disconnection of the wireless network board	1. Check the wireless network board. 2. Check the FFC.	Main Board CN3
205102	Card board failure	Failure or disconnection of the Card Slot Board Assy	1. Card Slot Board Assy 2. State of the FFC	Main Board CN61
2xxxxx	Firmware bug	An error code will be assigned to each firmware internal error as necessary.	1. Firmware version 2. Main Board	---

1.5.3 Fatal Error Code (XP-6000/XP-6001/XP-6005)

This section describes the fatal error code and the possible cause for this product.

- ☐ " Scanner (p43)"
- ☐ " Printer (CR) (p46)"
- ☐ " Printer (PF) (p47)"
- ☐ " Printer (ASF) (p49)"
- ☐ " Printer (I/S_APG) (p51)"
- ☐ " Printer (PW/PE Sensor) (p53)"
- ☐ " Printer (Head/CSIC) (p54)"
- ☐ " Printer (Others) (p55)"
- ☐ " System Error (p55)"

1.5.3.1 Scanner

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100016	HP detection failure	■ The SCN CR could not return to its home. 1. Damage or disengaging of Wheel Train of the Drive Mechanism 2. Disengaging, fraying, jumping of the Timing Belt ■ Failed to read the white standard/home patterns. 3. Disconnection, break, skew or damage of the SCN FFC 4. Failure of the CIS Unit 5. Failure of the SCN Housing 6. Failure of the Main Board	1. Turn the power on with the Document Cover opened. 2. Check if the CIS moves to the left to read the white standard/home patterns. 3. Check if the emission color of the CIS is white (not greenish, reddish, or bluish). If the light does not look like white, check the SCN FFC for damage, disconnection or skew. 4. Replace the SCN Unit with a new one. 5. Replace the Main Board with a new one.	Main Board CN70 CN71
100017	Contact detection distance exceeded	■ The SCN CR cannot completely reach the home (right side). 1. Damage or disengaging of Wheel Train of the Drive Mechanism 2. Disengaging, fraying, jumping of the Timing Belt ■ Failure of SCN Encoder reading 3. Damage or skew of the SCN FFC 4. Failure of the CIS Unit 5. Failure of the SCN Housing 6. Failure of the Main Board	1. Turn the power on with the Document Cover opened. 2. Check if the CIS (CR) reaches (comes in contact with) the right side. 3. When CIS do not move. 3-1.Disengaging, fraying, jumping of the Timing Belt. 3-2.Check the Wheel Train of the Drive Mechanism for damage. 4. Check the SCN FFC for damage, disconnection or skew. 5. Replace the SCN Unit with a new one. 6. Replace the Main Board with a new one.	Main Board CN70 CN71
100018	Opposite side contact detection distance exceeded error	Never occurs because Opposite side contact detection operation is not performed for this product.	---	---
100018	Opposite side contact detection distance error	Never occurs because Opposite side contact detection operation is not performed for this product.	---	---
100020	Measurement error	■ Overload of the SCN Drive Mechanism ■ Failure of the SCN Motor	1. Check if the CIS (CR) moves or not. 1-1.Check the Timing Belt for fraying or looseness. 1-2.Check the Wheel Train of the Drive Mechanism for damage. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	---

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100032	LED light failure	■ Failure of the CIS LED light (RGB) ☐ How the lamp looks and the error • Blue Off: 100032 (lamp is yellow to green) • Red OFF: 100032 (lamp is blue to green) • Green OFF: 100032 (lamp is red to purple) • not lit: 100032 (does not lit) 1. Disconnection, break, skew or damage of the SCN FFC 2. Failure of the CIS Unit 3. Failure of the Main Board	1. Check the color of the LED at power-on. 2. Check the SCN FFC for damage, disconnection or skew. 3. Replace the SCN Unit with a new one. 4. Replace the Main Board with a new one.	Main Board CN70
100065	FB PID excess speed error	■ Failure of SCN Encoder reading 1. Contamination of the SCN Encoder Scale 2. Damage or skew of the SCN FFC 3. Failure of the SCN Encoder Sensor ■ Failure of the SCN Motor Driver 4. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100066	FB PID reverse error	■ Operation failure of the SCN Motor 1. Malfunction of the SCN ☐ Disengaging of the SCN CR ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Damage or skew of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100067	FB PID lock error	■ The SCN Motor did not run. 1. The scanning operation was stopped by; ☐ Disengaging of the SCN CR ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Damage or skew of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the SCN Motor 6. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100068	FB PID acceleration lock error	■ The SCN Motor did not run. 1. The scanning operation was stopped by; ☐ Disengaging of the SCN CR ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Damage or skew of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the SCN Motor 6. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100069	FB PID excess load error	■ The SCN Motor stopped running in the middle of the operation. 1. The scanning operation was stopped by; ☐ Disengaging of the SCN CR ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Disconnection, break, skew or damage of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the SCN Motor 6. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100070	FB PID driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
100073	FB BS+ excess speed error	■ Failure of SCN Encoder reading 1. Contamination of the SCN Encoder Scale 2. Damage or skew of the SCN FFC 3. Failure of the SCN Encoder Sensor ■ Failure of the SCN Motor Driver 4. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100074	FB BS+ reverse error	■ Operation failure of the SCN Motor. 1. Malfunction of the SCN 2. Disengaging of the SCN CR. 3. Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 4. Contamination of the SCN Encoder 5. Damage or skew of the SCN FFC 6. Failure of the SCN Encoder Sensor 7. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100075	FB BS+ lock error	■ The SCN Motor did not run. 1. The scanning operation was stopped by; ☐ Disengaging of the SCN CR ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Damage or skew of the SCN FFC 4. Failure of the SCN Encoder Sensor 5. Failure of the SCN Motor 6. Failure of the Main Board	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71
100077	FB BS+ excess load error	■ The SCN Motor stopped running in the middle of the operation. 1. The scanning operation was stopped by; ☐ Disengaging of the SCN CR ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging of the SCN Motor Pulley or cracking of the SCN Motor Gears ■ Failure of SCN Encoder reading 2. Contamination of the SCN Encoder 3. Disconnection, break, skew or damage of the SCN FFC 4. Failure of the SCN Encoder Sensor. 5. Failure of the SCN Motor. 6. Failure of the Main Board.	1. Check the SCN FFC for damage, disconnection or skew. 2. Replace the SCN Unit with a new one. 3. Replace the Main Board with a new one.	Main Board CN70 CN71

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
100078	FB BS+ driving time error	Malfunction or crash of the firmware.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---

1.5.3.2 Printer (CR)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000020	CR PID driving time error	Malfunction or crash of the firmware.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000021	CR PID excess load error	■ The CR Motor stopped running in the middle of the operation. 1. The CR was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Interfere with the Ink system ☐ Disengaging, fraying, jumping of the Timing Belt ☐ Disengaging or breakage of the gears. ☐ APG Sensor failure, Sensor FFC disconnected ■ Failure of CR Encoder reading 2. Contamination of the CR Encoder Scale 3. Failure of the CR Motor (not completely broken) 4. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR Lock and Ink system for any abnormality. 3. Check the Timing Belt for fraying or looseness. 4. Check the load applied to the CR by moving it by hand. 5. Check if the lubricant on the CR shaft is adequate. 6. Check the CR Drive Mechanism. 7. Clean the CR Encoder Scale if it is contaminated. 8. Replace the CR Motor with a new one. 9. Replace the Main Board with a new one.	Main Board CN30 CN901
000022	CR PID excess speed error	■ Failure of CR Encoder reading 1. Contamination of the CR Encoder Scale 2. Damage or skew of the CR Encoder FFC 3. Failure of the CR Encoder Sensor ■ Failure of the CR Motor Driver ■ Failure of the Main Board	1. Clean the CR Encoder Scale if it is contaminated. 2. Check the FFC of the CR Encoder. 3. Replace the CR Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN30 CN901
000023	CR PID reverse error	■ Operation failure of the CR Motor, interrupted by obstacles 1. CR was stopped by; ☐ Obstacles such as jammed paper ☐ Interfere with the Ink system ☐ Disengaging or breakage of the gears ■ Failure of CR Encoder reading 2. Jumping of the CR Timing Belt 3. Contamination of the CR Encoder Scale 4. Damage or skew of the CR Encoder FFC 5. Failure of the CR Encoder Sensor 6. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR Lock and Ink system for any abnormality. 3. Check the Timing Belt for fraying or looseness. 4. Clean the CR Encoder Scale if it is contaminated. 5. Check the CR Encoder FFC or the connector. 6. Replace the CR Encoder Sensor with a new one. 7. Replace the Main Board with a new one.	Main Board CN30 CN901
000024	CR PID lock error	■ The CR Motor did not run, or the CR could not move smoothly. 1. Overload of the CR ■ Failure of CR Encoder reading 2. The Timing Belt become frayed or jumping 3. Contamination of the CR Encoder Scale 4. Disconnection, break, skew or damage of the CR Encoder FFC 5. Failure of the CR Encoder Sensor 6. Failure of the CR Motor (the lead wire is broken or the connector is disconnected) 7. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Move the CR by hand to see if it moves smoothly without getting stuck. 3. Check the Timing Belt for fraying or looseness. 4. Clean the CR Encoder Scale if it is contaminated. 5. Check the connector and the CR Encoder FFC for damage. 6. Replace the CR Encoder FFC with a new one. 7. Check the connector of the CR Motor. 8. Replace the CR Motor with a new one. 9. Replace the Main Board with a new one.	Main Board CN30 CN901

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000025	CR PID speed fall error	■ Operation failure of the CR. 1. The CR was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Interfere with the Ink system. ■ Failure of CR Encoder reading 2. The Timing Belt become loosened or jumping 3. Contamination of the CR Encoder Scale 4. Damage or skew of the CR Encoder FFC 5. Failure of the CR Motor 6. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR Lock and Ink system for any abnormality. 3. Check the Timing Belt for looseness. 4. Clean the CR Encoder Scale if it is contaminated. 5. Check the connector of the CR Encoder FFC. 6. Replace the CR Motor with a new one. 7. Replace the Main Board with a new one.	Main Board CN30 CN901
000030	CR load position driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000031	CR load position excess load error	■ The CR Motor stopped running in the middle of the operation. 1. The CR was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Interfere with the Ink system ☐ Disengaging or breakage of the gears ☐ Disengaging, fraying, jumping of the Timing Belt ■ Failure of CR Encoder reading 2. Contamination of the CR Encoder Scale 3. Failure of the CR Motor (not completely broken) ■ Failure of the D/E lever switch	1. Check that no obstacle exist in the CR motion range. 2. Check the CR Lock and Ink system for any abnormality. 3. Check the Timing Belt for fraying or looseness. 4. Check the load applied to the CR by moving it by hand. 5. Check if the lubricant on the CR shaft is adequate. 6. Check the CR Drive Mechanism. 7. Clean the CR Encoder Scale if it is contaminated. 8. Replace the CR Motor with a new one. 9. Replace the Main Board with a new one. 10. Check the connection of D/E switch lever.	Main Board CN30 CN901
000032	CR load position excess speed error	■ Failure of CR Encoder reading 1. Contamination of the CR Encoder Scale 2. Damage or skew of the CR Encoder FFC 3. Failure of the CR Encoder Sensor ■ Failure of the CR Motor Driver 4. Failure of the Main Board	1. Clean the CR Encoder Scale if it is contaminated. 2. Check the FFC of the CR Encoder. 3. Replace the CR Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN30 CN901
000033	CR load position reverse error	■ Operation failure of the CR Motor, interrupted by obstacles 1. CR was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Interfere with the Ink system ■ Failure of CR Encoder reading 2. Jumping of the CR Timing Belt 3. Contamination of the CR Encoder Scale 4. Damage or skew of the CR Encoder FFC 5. Failure of the CR Encoder Sensor 6. Failure of the Main Board	1. Check that no obstacle exist in the CR motion range. 2. Check the CR Lock and Ink system for any abnormality. 3. Check the Timing Belt for fraying or looseness. 4. Clean the CR Encoder Scale if it is contaminated. 5. Check the CR Encoder FFC or the connector. 6. Replace the CR Encoder Sensor with a new one. 7. Replace the Main Board with a new one.	Main Board CN30 CN901

1.5.3.3 Printer (PF)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000040	PF PID driving time error	Malfunction or crash of the firmware ☐ The PE Sensor remains in paper detection status and a paper jam error occurs instead of causing a fatal error.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000041	PF PID excess load error	■ The PF Motor stopped running in the middle of the operation. 1. The PF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Paper Feed Mechanism ☐ Disengaging or breakage of the gears ■ Failure of PF Encoder reading 2. The Timing Belt become frayed or jumping 3. Contamination of the PF Encoder Scale 4. Disconnection, break, skew or damage of the PF Motor Cable/Encoder FFC 5. Failure of the PF Motor (not completely broken) 6. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the Paper Feed Mechanism. 3. Check the Wheel Train of the PF Drive and the Timing Belt for fraying or looseness. 4. Check the PF Encoder Scale for damage or contamination. 5. Check the PF Encoder FFC or the connector. 6. Replace the PF Motor with a new one. 7. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902
000042	PF PID excess speed error	■ Failure of PF Encoder reading 1. Contamination of the PF Encoder Scale 2. Skew or damage of the PF Encoder FFC 3. Failure of the PF Encoder Sensor ■ Failure of the PF Motor Driver 4. Failure of the Main Board	1. Clean the PF Encoder Scale if it is contaminated. 2. Check the PF Encoder FFC or the connector. 3. Replace the PF Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902
000043	PF PID reverse error	■ Paper feed fails, interrupted by obstacles 1. Paper feed was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Paper Feed Mechanism ☐ Disengaging or tooth breakage of Wheel Train of the Paper Feed Mechanism ■ Failure of PF Encoder reading 2. Jumping of the PF Timing Belt 3. Contamination of the PF Encoder Scale 4. Skew or damage of the PF Encoder FFC 5. Failure of the PF Encoder Sensor 6. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the Paper Feed Mechanism. 3. Check the Wheel Train of the PF Drive and the Timing Belt. 4. Clean the PF Encoder Scale if it is contaminated. 5. Check the PF Encoder FFC or the connector. 6. Replace the PF Encoder Sensor with a new one. 7. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902
000044	PF PID lock error	■ The PF Motor did not run or obstacles exist in the paper path. 1. Overload of the Paper Feed Mechanism 2. The PF Timing Belt become frayed, jumping, or the Wheel Train of Paper Feed Mechanism is disengaged or its tooth is broken. ■ Failure of PF Encoder reading 3. Contamination of the PF Encoder Scale 4. Disconnection, break, skew or damage of the PF Encoder FFC 5. Failure of the PF Encoder Sensor 6. Failure of the PF Motor (the lead wire is broken or the connector is disconnected) 7. Failure of the Main Board	1. Check that no jammed paper exist in the paper path. 2. Check the load of the PF. 3. Check the Wheel Train of the PF Drive and the Timing Belt for fraying or looseness. 4. Clean the PF Encoder Scale if it is contaminated. 5. Check the PF Encoder FFC or the connector. 6. Replace the PF Encoder Sensor with a new one. 7. Check the connector of the PF Motor. 8. Replace the PF Motor with a new one 9. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902
000050	PF load position driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000051	PF load position excess load error	■ The PF Motor stopped running in the middle of the operation. 1. The PF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Paper Feed Mechanism ☐ Disengaging or breakage of the gears ■ Failure of PF Encoder reading 2. Jumping of the Timing Belt 3. Contamination of the PF Encoder Scale 4. Failure of the PF Motor (not completely broken) 5. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the Paper Feed Mechanism. 3. Check the Wheel Train of the PF Drive and the Timing Belt for fraying or looseness. 4. Clean the PF Encoder Scale if it is contaminated. 5. Replace the PF Motor with a new one 6. Replace the Main Board with a new one.	---

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000052	PF load position excess speed error	■ Failure of PF Encoder reading 1. Contamination of the PF Encoder Scale 2. Skew or damage of the PF Encoder FFC 3. Failure of the PF Encoder Sensor ■ Failure of the PF Motor Driver 4. Failure of the Main Board	1. Clean the PF Encoder Scale if it is contaminated. 2. Check the PF Encoder FFC or the connector. 3. Replace the PF Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902
000053	PF load position reverse error	■ Paper feed fails, interrupted by obstacles 1. Paper feed was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Paper Feed Mechanism ☐ Disengaging or tooth breakage of Wheel Train of the Paper Feed Mechanism ■ Failure of PF Encoder reading 2. Jumping of the PF Timing Belt 3. Contamination of the PF Encoder Scale 4. Skew or damage of the PF Encoder FFC 5. Failure of the PF Encoder Sensor 6. Failure of the Main Board	1. Check that no pieces of paper or foreign objects exist in the paper path. 2. Check the load of the Paper Feed Mechanism. 3. Check the Wheel Train of the PF Drive and the Timing Belt for fraying or looseness. 4. Clean the PF Encoder Scale if it is contaminated. 5. Check the PF Encoder FFC or the connector. 6. Replace the PF Encoder Sensor with a new one. 7. Replace the Main Board with a new one.	Relay Board CN19 Main Board CN902

1.5.3.4 Printer (ASF)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000060	ASF PID driving time error	Malfunction or crash of the firmware.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000061	ASF PID excess load error	■ The ASF Motor stopped running in the middle of the operation. 1. The ASF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of ASF Encoder reading 2. Disconnection or contamination of the ASF Encoder Scale 3. Disconnection, break, skew or damage of the ASF Motor Cable/ASF Encoder FFC 4. Failure of the ASF Encoder Sensor 5. Failure of the ASF Motor (not completely broken) 6. Failure of the Main Board ■ Failure of the D/E lever switch	1. Check that no obstacle exist in the ASF motion range. 2. Check the ASF Drive Wheel Train. 3. Check the ADF Encoder Scale for disconnection or contamination. Clean the Encoder Scale if it is contaminated. 4. Check the cable/FFC of the ASF Motor/ encoder. 5. Replace the ASF Encoder Sensor with a new one. 6. Replace the ASF Motor with a new one. 7. Replace the Main Board with a new one. 8. Check the connection of D/E switch lever.	Main Board CN16 CN27
000062	ASF PID excess speed error	■ Failure of ASF Encoder reading 1. Contamination of the ASF Encoder Scale 2. Damage or skew of the ASF Motor Cable/ Encoder FFC 3. Failure of the ASF Encoder Sensor ■ Failure of the ASF Motor Driver 4. Failure of the Main Board	1. Clean the ASF Encoder Scale if it is contaminated. 2. Check the cable/FFC of the ASF Motor/ encoder. 3. Replace the ASF Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN16 CN27

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000063	ASF PID reverse error	■ Paper loading fails, interrupted by obstacles 1. The ASF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of ASF Encoder reading 2. Contamination of the ASF Encoder Scale 3. Damage or skew of the ASF Motor Cable/ Encoder FFC 4. Failure of the ASF Encoder Sensor 5. Failure of the Main Board	1. Check that no obstacle exist in the ASF motion range. 2. Check the ASF Drive Wheel Train. 3. Clean the ASF Encoder Scale if it is contaminated. 4. Check the cable/FFC of the ASF Motor/ encoder. 5. Replace the ASF Encoder Sensor with a new one. 6. Replace the Main Board with a new one.	Main Board CN16 CN27
000064	ASF PID lock error	■ The ASF Motor did not run. 1. The ASF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of ASF Encoder reading 2. Contamination of the ASF Encoder Scale 3. Disconnection, break, skew or damage of the ASF Motor Cable/Encoder FFC 4. Failure of the ASF Encoder Sensor 5. Failure of the ASF Motor (the lead wire is broken or the connector is disconnected) 6. Failure of the Main Board	1. Check that no obstacle exist in the ASF motion range. 2. Check the ASF Drive Wheel Train. 3. Clean the ASF Encoder Scale if it is contaminated. 4. Check the cable/FFC of the ASF Motor/ encoder. 5. Replace the ASF Encoder Sensor with a new one. 6. Replace the ASF Motor with a new one. 7. Replace the Main Board with a new one.	Main Board CN16 CN27
000070	ASF load position driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000071	ASF load position excess load error	■ The ASF Motor stopped running in the middle of the operation. 1. The ASF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of ASF Encoder reading 2. Contamination of the ASF Encoder Scale 3. Failure of the ASF Encoder Sensor 4. Failure of the ASF Motor (not completely broken) 5. Failure of the Main Board	1. Check that no obstacle exist in the ASF motion range. 2. Check the load of the ASF paper feed Mechanism. 3. Clean the ASF Encoder Scale if it is contaminated. 4. Replace the ASF Encoder Sensor with a new one. 5. Replace the ASF Motor with a new one. 6. Replace the Main Board with a new one.	Main Board CN16 CN27
000072	ASF load position excess speed error	■ Failure of ASF Encoder reading 1. Contamination of the ASF Encoder Scale 2. Damage or skew of the ASF Motor Cable/ Encoder FFC 3. Failure of the ASF Encoder Sensor ■ Failure of the ASF Motor Driver 4. Failure of the Main Board	1. Clean the ASF Encoder Scale if it is contaminated. 2. Check the cable/FFC of the ASF Motor/ encoder. 3. Replace the ASF Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Main Board CN16 CN27
000073	ASF load position reverse error	■ Paper loading fails, interrupted by obstacles 1. The ASF was stopped by; ☐ Obstacles such as jammed paper ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of ASF Encoder reading 1. Contamination of the ASF Motor Encoder Scale 2. Damage or skew of the ASF Motor Cable/ Encoder FFC 3. Failure of the ASF Motor Encoder 4. Failure of the Main Board	1. Check that no obstacle exist in the ASF motion range. 2. Check the ASF Drive Wheel Train. 3. Clean the ASF Encoder Scale if it is contaminated. 4. Check the cable/FFC of the ASF Motor/ encoder. 5. Replace the ASF Encoder Sensor with a new one. 6. Replace the Main Board with a new one.	Main Board CN16 CN27

1.5.3.5 Printer (I/S_APG)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000100	I/S PID driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000101	I/S PID excess load error	■ The I/S_APG Motor stopped running in the middle of the operation. 1. The Ink system was stopped by; ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of I/S_APG Encoder reading 2. Contamination of the I/S_APG Encoder Scale 3. Failure of the I/S_APG Motor (not completely broken) 4. Failure of the Main Board	1. Check the load applied to the I/S_APG Motor by moving it by hand. 2. Check the Wheel Train of the I/S and the APG Drive for disengage or crack. 3. Clean the I/S_APG Encoder Scale if it is contaminated. 4. Replace the I/S_APG Motor with a new one. 5. Replace the Main Board with a new one.	---
000102	I/S PID excess speed error	■ Failure of I/S_APG Encoder reading 1. Contamination of the I/S_APG Encoder Scale 2. Damage or skew of the I/S_APG Encoder FFC 3. Failure of the I/S_APG Encoder Sensor ■ Failure of the I/S_APG Motor Driver 4. Failure of the Main Board	1. Clean the I/S_APG Encoder Scale if it is contaminated. 2. Check the I/S_APG Encoder FFC or the connector. 3. Replace the I/S_APG Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Relay Board CN16 Main Board CN903
000103	I/S PID reverse error	■ Operation failure of the I/S_APG Motor, interrupted by obstacles 1. The Ink system was stopped by; ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of I/S_APG Encoder reading 2. Contamination of the I/S_APG Encoder Scale 3. Damage or skew of the I/S_APG Motor Cable/ I/S_APG Encoder FFC 4. Failure of the I/S_APG Encoder Sensor. 5. Failure of the Main Board.	1. Check the load applied to the I/S_APG Motor by moving it by hand. 2. Check the Wheel Train of the I/S and the Drive for tooth breakage or disengaging. 3. Clean the I/S_APG Encoder Scale if it is contaminated. 4. Check the cable/FFC of the I/S_APG Motor/Encoder. 5. Replace the Ink system with a new one. 6. Replace the Main Board with a new one.	Relay Board CN16 Main Board CN903
000104	I/S PID lock error	■ The I/S_APG Motor did not run 1. The Ink system was stopped by; ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of I/S_APG Encoder reading 2. Contamination of the I/S_APG Encoder Scale 3. Break, skew or damage of the I/S_APG Motor Cable/I/S_APG Encoder FFC. 4. Failure of the I/S_APG Encoder Sensor. 5. Failure of the I/S_APG Motor (the lead wire is broken or the connector is disconnected). 6. Failure of the Main Board.	1. Check the load applied to the I/S_APG Motor by moving it by hand. 2. Check the Wheel Train of the I/S and the APG Drive for tooth breakage or disengaging. 3. Clean the I/S_APG Encoder Scale if it is contaminated. 4. Check the cable/FFC of the I/S_APG Motor/Encoder. 5. Replace the I/S_APG Motor with a new one. 6. Replace the Main Board with a new one.	Relay Board CN16 Main Board CN903
000110	I/S load position driving time error	Malfunction or crash of the firmware.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000111	I/S load position excess load error	■ The I/S_APG Motor stopped running in the middle of the operation. 1. The Ink system was stopped by; ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of I/S_APG Encoder reading 2. Contamination of the I/S_APG Encoder Scale 3. Failure of the I/S_APG Motor (not completely broken) 4. Failure of the Main Board	1. Check the load applied to the I/S_APG Motor by moving it by hand. 2. Check the Wheel Train of the I/S and the APG Drive for disengage or crack. 3. Clean the I/S_APG Encoder Scale if it is contaminated. 4. Replace the I/S_APG Motor with a new one. 5. Replace the Main Board with a new one.	Relay Board CN16 Main Board CN903

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000112	I/S load position excess speed error	■ Failure of I/S_APG Encoder reading 1. Contamination of the I/S_APG Encoder Scale 2. Damage or skew of the I/S_APG Encoder FFC 3. Failure of the I/S_APG Encoder Sensor ■ Failure of the I/S_APG Motor Driver 4. Failure of the Main Board/	1. Clean the I/S_APG Encoder Scale if it is contaminated. 2. Check the I/S_APG Encoder FFC or the connector. 3. Replace the I/S_APG Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	Relay Board CN16 Main Board CN903
000113	I/S load position reverse error	■ Operation failure of the I/S_APG Motor, interrupted by obstacles 1. The Ink system was stopped by; ☐ Overload of the Mechanism ☐ Disengaging or breakage of the gears ■ Failure of I/S_APG Encoder reading 2. Contamination of the I/S_APG Motor Encoder Scale 3. Damage or skew of the I/S_APG Motor Cable/ I/S_APG Encoder FFC 4. Failure of the I/S_APG Encoder Sensor 5. Failure of the Main Board	1. Check the load applied to the I/S_APG Motor by moving it by hand. 2. Check the Wheel Train of the I/S and the APG Drive for tooth breakage or disengaging. 3. Clean the I/S_APG Encoder Scale if it is contaminated. 4. Check the cable/FFC of I/S_APG Motor/ Encoder. 5. Replace the I/S_APG Encoder Sensor with a new one. 6. Replace the Main Board with a new one.	Relay Board CN16 Main Board CN903

☐ Printer (Stacker)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000140	STK PID driving time error	Malfunction or crash of the firmware.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000141	STK PID excess load error	■ The STK Motor stopped running in the middle of the operation. 1. The Stacker was stopped by; ☐ Overload of the STK Assy ☐ Disengaging or breakage of the gear ■ Failure of STK Encoder reading 2. Contamination of the STK Encoder Scale 3. Disconnection, break, skew or damage of the STK Motor Cable/STK Encoder FFC 4. Failure of the STK Motor (not completely broken) 5. Failure of the Main Board	1. Check the load applied to the Stacker Assy by moving it by hand. 2. Check the Wheel Train of the Stacker Assy Drive for disengage or crack. 3. Clean the STK Encoder Scale if it is contaminated. 4. Check the cable/FFC of STK Motor/ Encoder. 5. Replace the STK Motor with a new one. 6. Replace the Main Board with a new one.	---
000142	STK PID excess speed error	■ Failure of STK Encoder reading 1. Contamination of the STK Encoder Scale 2. Damage or skew of the STK Motor Cable/STK Encoder FFC 3. Failure of the STK Encoder Sensor ■ Failure of the STK Motor Driver 4. Failure of the Main Board	1. Clean the STK Encoder Scale if it is contaminated. 2. Check the STK Encoder FFC or the connector. 3. Replace the STK Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	---
000143	STK PID reverse error	■ Operation failure of the STK Motor, interrupted by obstacles 1. The Stacker was stopped by; ☐ Overload of the STK Assy ☐ Disengaging or breakage of the gears ■ Failure of STK Encoder reading 2. Contamination of the STK Encoder Scale 3. Damage or skew of the STK Motor Cable/STK Encoder FFC. 4. Failure of the STK Encoder Sensor 5. Failure of the Main Board	1. Check the load applied to the STK Assy by moving it by hand. 2. Check the Wheel Train of the STK Assy Drive for tooth breakage or disengaging. 3. Clean the STK Encoder Scale if it is contaminated. 4. Check the cable/FFC of STK Motor/ Encoder. 5. Replace the STK Encoder Sensor with a new one. 6. Replace the Main Board with a new one.	---

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
000144	STK PID lock error	■ The STK Motor did not run. 1. The Stacker was stopped by; ☐ Overload of the STK Assy ☐ Disengaging or breakage of the gears ■ Failure of STK Encoder reading 2. Contamination of the STK Encoder Scale 3. Break, skew or damage of the STK Motor Cable/ STK Encoder FFC 4. Failure of the STK Encoder Sensor 5. Failure of the STK Motor (the lead wire is broken or the connector is disconnected) 6. Failure of the Main Board	1. Check the load applied to the STK Assy by moving it by hand. 2. Check the Wheel Train of the STK Assy Drive for tooth breakage or disengaging. 3. Clean the STK Encoder Scale if it is contaminated. 4. Check the cable/FFC of STK Motor/ Encoder. 5. Replace the STK Encoder Sensor with a new one. 6. Replace the STK Motor with a new one. 7. Replace the Main Board with a new one.	---
000150	STK load position driving time error	Malfunction or crash of the firmware	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	---
000151	STK load position excess load error	■ The STK Motor stopped running in the middle of the operation. 1. The Stacker was stopped by; ☐ Overload of the STK Assy ☐ Disengaging or breakage of the gears ■ Failure of STK Encoder reading 2. Contamination of the STK Encoder Scale 3. Break, skew or damage of the STK Motor Cable/ STK Encoder FFC 4. Failure of the STK Motor (not completely broken) 5. Failure of the Main Board	1. Check the load applied to the STK Assy by moving it by hand. 2. Check the Wheel Train of the STK Assy Drive for tooth breakage or disengaging. 3. Clean the STK Encoder Scale if it is contaminated. 4. Check the cable/FFC of STK Motor/ Encoder. 5. Replace the STK Motor with a new one. 6. Replace the Main Board with a new one.	---
000152	STK load position excess speed error	■ Failure of STK Encoder reading 1. Contamination of the STK Encoder Scale 2. Damage or skew of the STK Motor Cable/STK Encoder FFC 3. Failure of the STK Encoder Sensor ■ Failure of the STK Motor driver 4. Failure of the Main Board	1. Clean the STK Encoder Scale if it is contaminated. 2. Check the STK Encoder FFC or the connector. 3. Replace the STK Encoder Sensor with a new one. 4. Replace the Main Board with a new one.	---
000153	STK load position reverse error	■ Operation failure of the STK Motor, interrupted by obstacles 1. The Stacker was stopped by; ☐ Overload of the STK Assy ☐ Disengaging or breakage of the gears ■ Failure of STK Encoder reading 2. Contamination of the STK Motor Encoder Scale 3. Damage or skew of the STK Motor Cable/STK Encoder FFC 4. Failure of the STK Encoder Sensor 5. Failure of the Main Board	1. Check the load applied to the STK Assy by moving it by hand. 2. Check the Wheel Train of the STK Assy Drive for tooth breakage or disengaging. 3. Clean the STK Encoder Scale if it is contaminated. 4. Check the cable/FFC of STK Motor/ Encoder. 5. Replace the STK Encoder Sensor with a new one. 6. Replace the Main Board with a new one.	---

1.5.3.6 Printer (PW/PE Sensor)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
030001	PE detector error	■ PE Sensor damage ■ Failure of the Main Board ☐ Occurs when the light value became lower than the threshold value in light value adjustment.	1. Check the PE Sensor for broken cable or unconnected connector. 2. Replace the PE Sensor with a new one. 3. Replace the Main Board with a new one.	Relay Board CN10
030002	PW sensor light value adjust error	■ PW Sensor damage ■ Failure of the Main Board ☐ Cannot detect paper even the light value was raised to maximum in light value adjustment.	1. Check the PW Sensor for broken cable or unconnected connector. 2. Replace the PW Sensor with a new one. 3. Replace the Main Board with a new one.	Main Board CN30

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
030003	PE sensor light value adjust error	■ PE Sensor damage ■ Failure of the Main Board ☐ Cannot detect paper even the light value was raised to maximum in light value adjustment.	1. Check the PE Sensor for broken cable or unconnected connector. 2. Replace the PE Sensor with a new one. 3. Replace the Main Board with a new one.	Relay Board CN10

1.5.3.7 Printer (Head/CSIC)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
031001	HeadHot detect error (before printing)	■ Disconnection, break, skew or damage of the head FFC ■ Overheat of the printhead. 1. Failure of the printhead 2. Failure of the Main Board ☐ Occurs in-between print passes (after printing one pass and before printing the next pass).	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the printhead with a new one. 3. Replace the Main Board with a new one.	Main Board CN40 CN41 CN42 CN43
031002	HeadHot detect error (after flushing)	■ Disconnection, break, skew or damage of the head FFC ■ Overheat of the printhead 1. Failure of the printhead 2. Failure of the Main Board ☐ Occurs every after ink flushing operation. (Flushing before starting printing, flushing after manual cleaning and etc.)	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the printhead with a new one. 3. Replace the Main Board with a new one.	Main Board CN40
031003	Transistor temperature error	■ Failure of the Main Board ☐ Occurs after receiving a print job and starting printing.	Replace the Main Board with a new one.	Main Board CN42
031004	Head temperature error	■ Disconnection, break, skew or damage of the head FFC ☐ Occurs after receiving a print job and starting printing. • Failure of the thermistor inside the printhead • Temperature around the printhead is out of the range from -20 to 80 degrees C.	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the printhead with a new one. 3. Replace the Main Board with a new one.	Main Board CN42
031005	Head hot detect error (when changing ink)	■ Disconnection, break, skew or damage of the head FFC ■ Overheat of the printhead 1. Failure of the printhead 2. Failure of the Main Board ■ Occurs when changing the Ink Cartridge. (When cartridge moved to the replacing position.)	1. Check the head FFC for disconnection, break, skew or damage. 2. Replace the printhead with a new one. 1. Replace the Main Board with a new one.	Main Board CN40
031006	Blowout of a fuse error (Head)	■ Failure of the power source for the printhead. 1. Failure of the circuit. ☐ Disconnection, break, skew, or damage of the head FFC 2. Blowout of fuse on the Main Board. ☐ Failure of the printhead. • Occurs at power-on, when replacing the ink cartridge, in-between print passes, and after flushing operation.	1. If the fuse has not blown out • Check the head FFC for disconnection, break, skew or damage. 2. If the fuse has blown out • Replace the Main Board with a new one. 3. In the other cases • Replace the printhead with a new one.	Main Board CN42
033001	Blowout of a fuse error (CRCM)	■ Failure of the Main Board ☐ Occurs at power-on, and during operation for replacing the ink cartridge.	1. Check the CRCM FFC for disconnection, break, skew or damage. 2. If the error still occurs after the restart, replace the Main Board.	Main Board CN49

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
033003	Other Ink device error	■ Error in the printer settings ■ Failure of the Main Board □ Occurs at power-on.	1. Turn the printer off and back it on. 2. If the error still occurs after the restart, replace the Main Board.	-----
033004	Other Ink device error			
033005	Other Ink device error			
033006	CRCM access error (Hard factor)	■ Disconnection, break, skew or damage of the CRCM FFC ■ Failure of the CSIC terminal/CR contact module ■ Failure of the Main Board	1. Check the CRCM FFC for disconnection, break, skew or damage. 2. If the error still occurs after the restart, replace the Main Board.	Main Board CN49
033007	CRCM access error (Hard factor)			
033008	CRCM access error (Firm factor)	This error will not be indicated, only process occurs.	---	---
033010	CSIC access error (Hard factor)	■ Disconnection, break, skew or damage of the CRCM FFC ■ Failure of the CSIC terminal/CR contact module ■ Failure of the Main Board (mismatch of the printer settings that cannot be changed when repairing the printer) □ Occurs at power-on	1. Check the CRCM FFC for disconnection, break, skew or damage. 2. If the error still occurs after the restart, replace the Main Board.	Main Board CN49

1.5.3.8 Printer (Others)

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
034001	Home position seek error	This error code is not displayed but the error history is saved. ■ The carriage does not move 1. Overload of the Carriage Drive Mechanism (paper jam, foreign object) 2. Failure of the Ink system 3. Failure of the CR Motor 4. Failure of the Main Board	1. Check that no obstacles or paper exist in the carriage motion range. 2. Manually unlock the carriage. (If unlocking is impossible, the problem caused by failure of the Ink system.) 3. Check the load applied to the CR by moving it by hand. 4. Turn the printer on and check if the carriage moves. If it still does not move, the motor is broken or failure of the Main Board.	---
060001	Error caused by other than printer device	This error code will not be indicated.	---	---
060002	Driver mismatch error	■ Non-supported printer driver ■ Mismatch between custom printer driver and custom printer	Check the OS and the version of the printer driver.	---
060003	Error due to PCD verify command	Failure of the Main Board	Replace the Main Board with a new one.	---

1.5.3.9 System Error

Error code	Error name	Possible cause	Confirmation procedure	Connector No.
202620	Wi-Fi Board failure	Failure or disconnection of the wireless network board	1. Check the wireless network board. 2. Check the FFC.	Main Board CN3
205102	Card board failure	Failure or disconnection of the Card Slot Board Assy	1. Card Slot Board Assy 2. State of the FFC	Main Board CN61
2xxxxx	Firmware bug	An error code will be assigned to each firmware internal error as necessary.	1. Firmware version 2. Main Board	---

CHAPTER **2**

DISASSEMBLY/REASSEMBLY

2.1 Overview

This chapter describes procedures for disassembling the main parts/units of this product. Unless otherwise specified, disassembled parts/units can be reassembled by reversing the disassembly procedure. See the cautions or tips for disassembly/reassembly described in "2.6 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p85)"
Read the "Safety Precautions(p3)" before disassembling and reassembling.
When you have to remove units or parts that are not described in this chapter, see the exploded diagrams of SPI (Service Parts Information).

2.1.1 Tools

Use only specified tools to avoid damaging the printer.

Name	Availability	EPSON Part Code
(+) Phillips screwdriver #1	✓	1080530
(+) Phillips screwdriver #2	✓	---
Flathead screwdriver	✓	---
Flathead Precision screwdriver #1	✓	---
Tweezers	✓	---
Long nose pliers	✓	---
Acetate tape	---	1003963

Note 1: Some of the tools listed above are commercially available.
2: EPSON provides the tools listed with EPSON part code.

2.1.2 Jigs

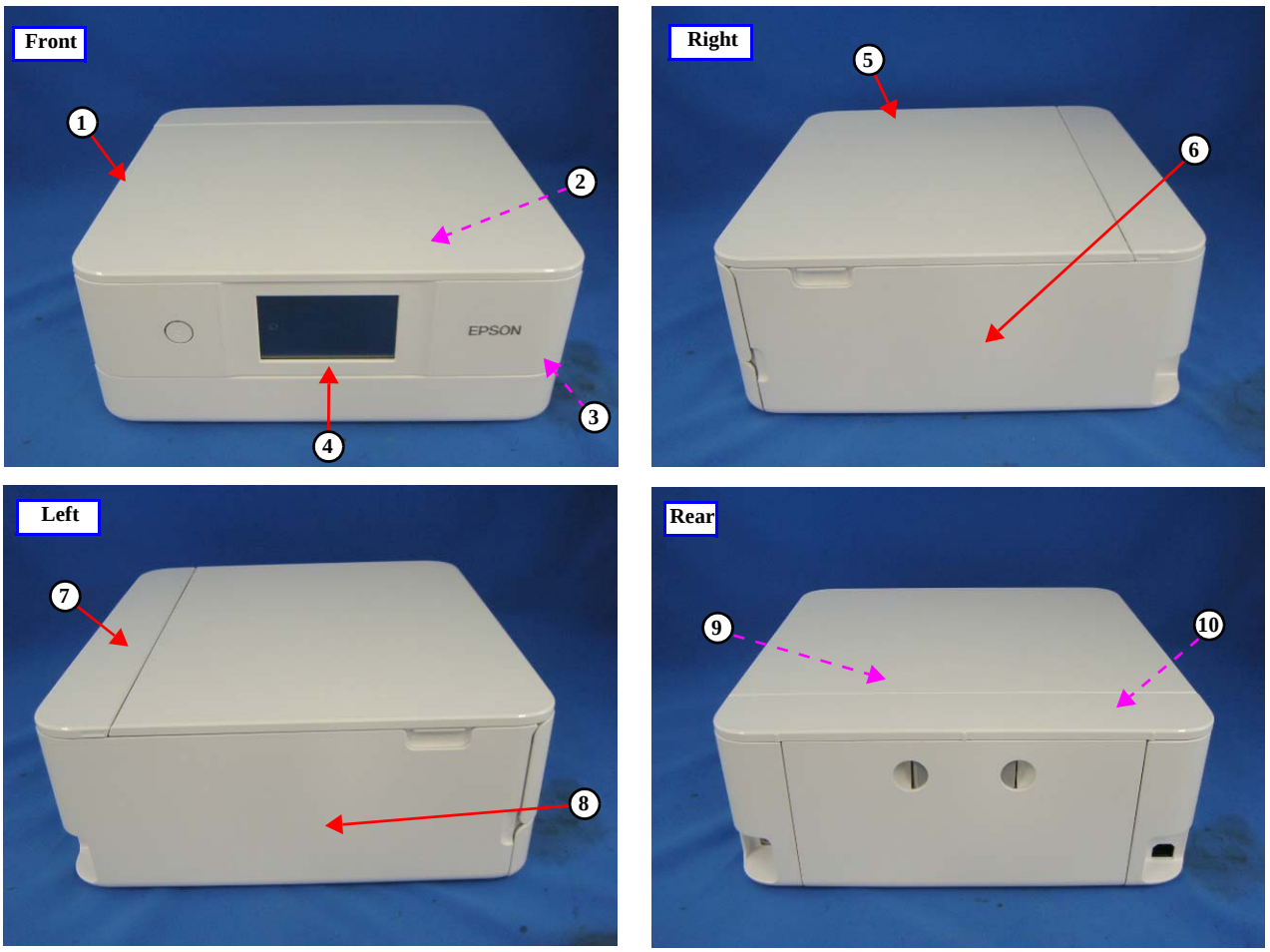
Name	Quantity	EPSON Part Code
Thickness gauge (1.1 mm)	2	Commercially available
Thickness gauge (1.3 mm)	2	Commercially available

2.1.3 Locations of the Parts/Units (XP-8500/XP-8505)

This section shows the locations of the main parts/units of this product.

The parts/units which can not be seen in the following pictures are indicated in dotted lines (- - →).

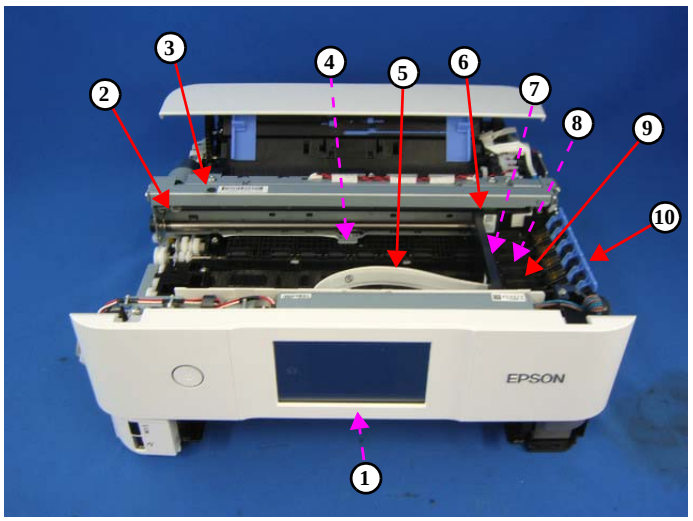
☐ Exterior parts



No.	Name	No.	Name
1	SCN Unit (p78)	6	Right Housing Assy (p78)
2	Housing Upper Front Assy (p78)	7	ASF Cover (p78)
3	Front Right Housing Assy (p78)	8	Left Housing (p78)
4	Panel Assy (p80)	9	Housing Upper Rear (w/ Wireless LAN Board) (p78)
5	Document Cover (p78)	10	Upper MSF Assy (p71)

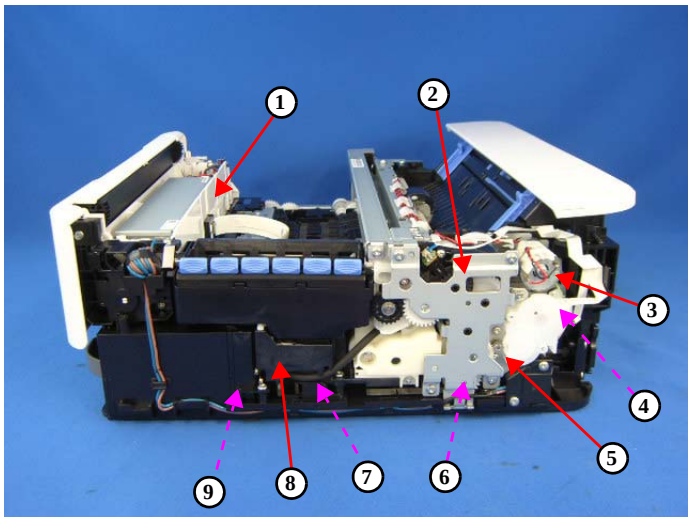
Figure 2-1. Exterior Parts

☐ Printer mechanism



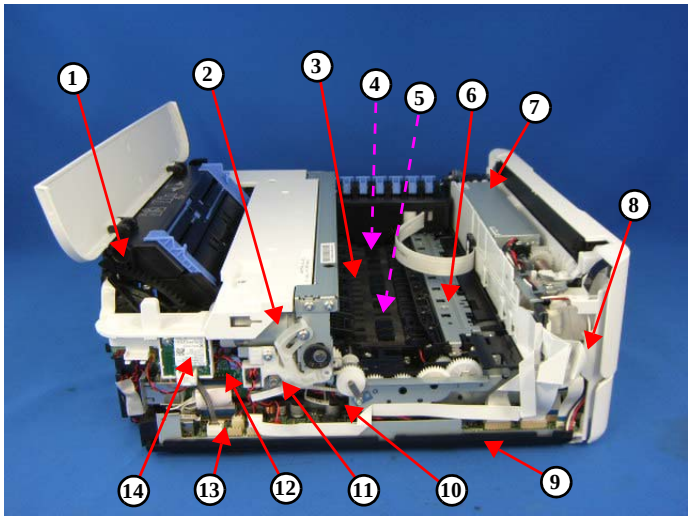
No.	Name	No.	Name
1	STK Assy (p80)	6	CR Assy (p82)
2	CR Scale (w/Torsion Spring 12.84) (p82)	7	IC Guide (p82)
3	CR Guide Frame (p81)	8	PW Sensor (p82)
4	PE Sensor Unit (p83)	9	Printhead (p82)
5	FFC Assy (p82)	10	CSIC Assy (p82)

Figure 2-2. Printer Mechanism: Front



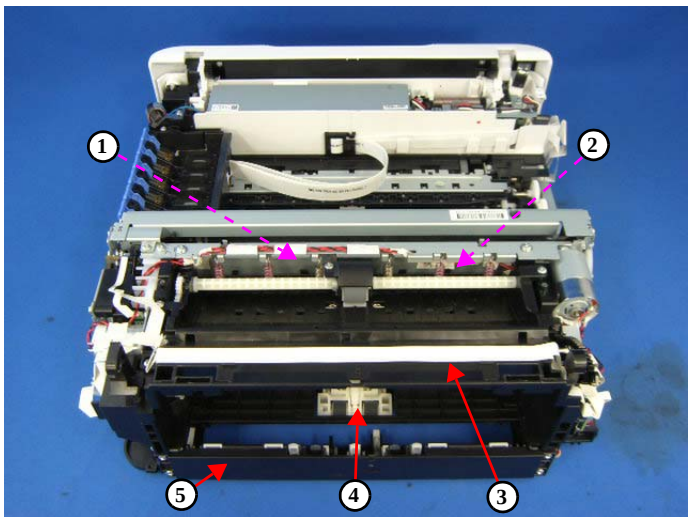
No.	Name	No.	Name
1	Frame Panel Assy (p80)	6	Combination Gear 22.4,17.5 (p80)
2	APG Gear Assy (p79)	7	Ink System Assy Lower Porous Pad (p81)
3	ASF Motor (p81)	8	Ink System Assy (p81)
4	ASF Encoder (p81)	9	Waste Ink Connector Assy (p79)
5	I/S_APG Motor (p74)		

Figure 2-3. Printer Mechanism: Right



No.	Name	No.	Name
1	Rack Damper (p80)	8	Card Slot Board Assy (p80)
2	CR Motor (p82)	9	Lower Right Housing Assy (p79)
3	Front Paper Guide Assy (p83)	10	PF Encoder (p79)
4	Porous Pad Paper Guide Lower Bridge (p83)	11	PF Motor Assy (p83)
5	Porous Pad Paper Guide Lower (p83)	12	Board Assy Sub (p80)
6	Star Wheel Holder Assy (p83)	13	Main Board Assy (p80)
7	PS Unit (p80)	14	Wireless LAN USB Module (p78)

Figure 2-4. Printer Mechanism: Left



No.	Name	No.	Name
1	Upper Paper Guide (p82)	4	Pick Up Assy (p78)
2	Porous Pad Frame Cover Lower (p83)	5	ASF Bank Assy (p79)
3	Lower MSF Assy (p82)		

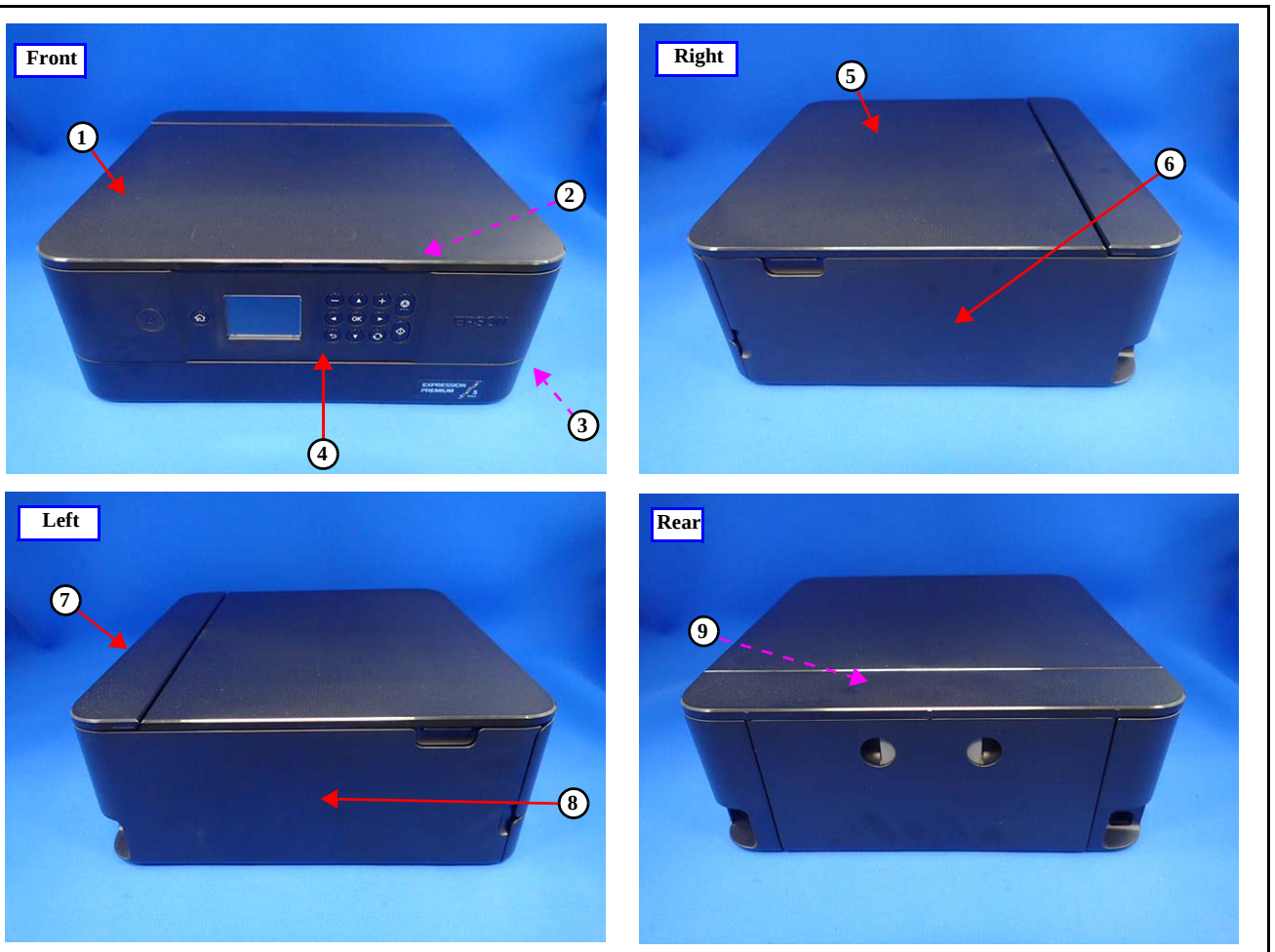
Figure 2-5. Printer Mechanism: Rear

2.1.4 Locations of the Parts/Units (XP-6000/XP-6001/XP-6005)

This section shows the locations of the main parts/units of this product.

The parts/units which can not be seen in the following pictures are indicated in dotted lines (- - →).

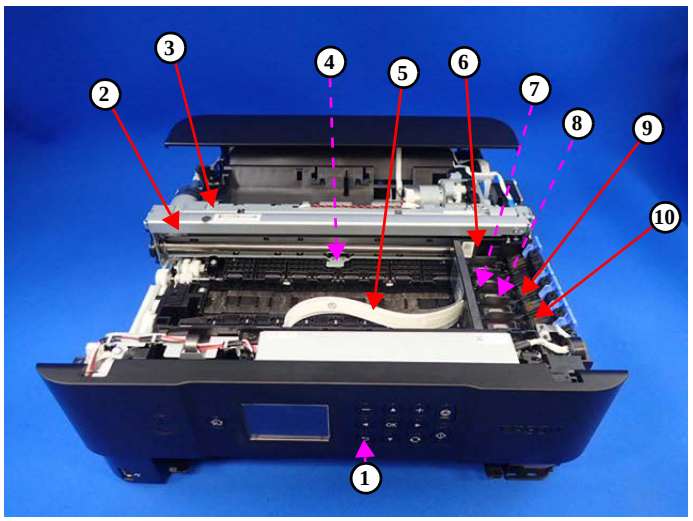
☐ Exterior parts



No.	Name	No.	Name
1	SCN Unit (p78)	6	Right Housing Assy (p78)
2	Housing Upper Front Assy (p78)	7	ASF Cover (p78)
3	Front Right Housing Assy (p78)	8	Left Housing (p78)
4	Panel Assy (p80)	9	Housing Upper Rear (w/ Wireless LAN Board) (p78)
5	Document Cover (p78)		

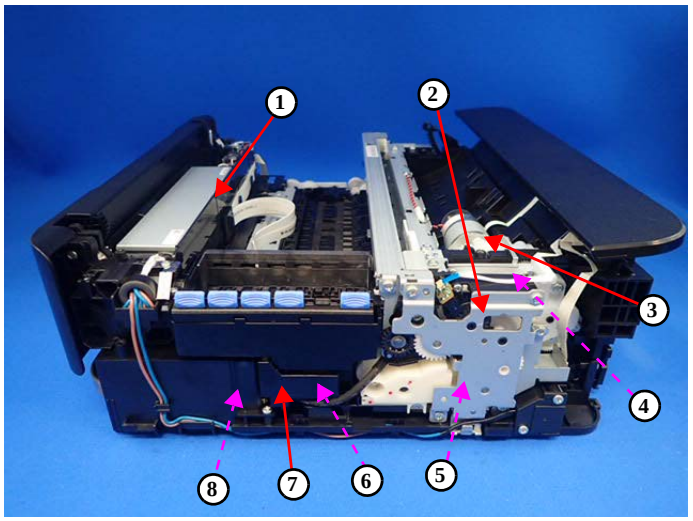
Figure 2-6. Exterior Parts

☐ Printer mechanism



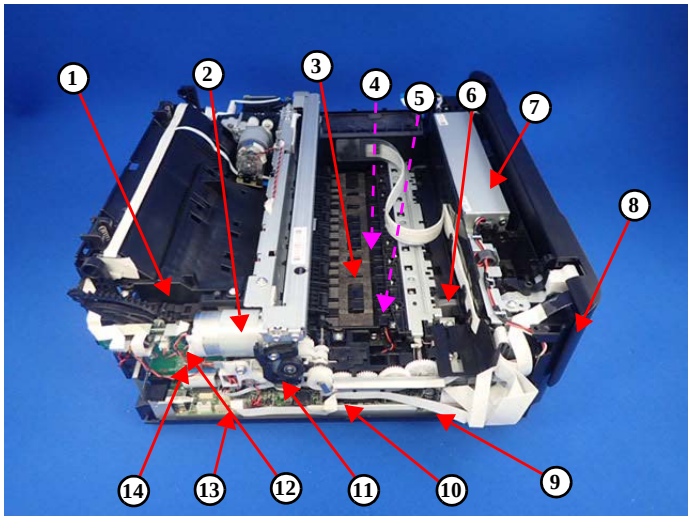
No.	Name	No.	Name
1	STK Assy (p80)	6	CR Assy (p82)
2	CR Scale (w/Torsion Spring 12.84) (p82)	7	IC Guide (p82)
3	CR Guide Frame (p81)	8	PW Sensor (p82)
4	PE Sensor Unit (p83)	9	Printhead (p82)
5	FFC Assy (p82)	10	CSIC Assy (p82)

Figure 2-7. Printer Mechanism: Front



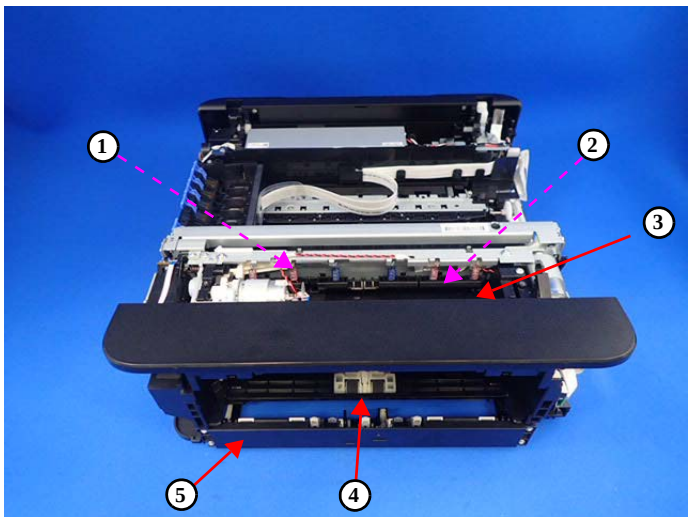
No.	Name	No.	Name
1	Frame Panel Assy (p80)	6	Ink System Assy Lower Porous Pad (p81)
2	APG Gear Assy (p79)	7	Ink System Assy (p81)
3	ASF Motor (p81)	8	Waste Ink Connector Assy (p79)
4	ASF Encoder (p81)		
5	Combination Gear 22.4,17.5 (p80)		

Figure 2-8. Printer Mechanism: Right



No.	Name	No.	Name
1	Rack Damper (p80)	8	Card Slot Board Assy (p80)
2	CR Motor (p82)	9	Lower Right Housing Assy (p79)
3	Front Paper Guide Assy (p83)	10	PF Encoder (p79)
4	Porous Pad Paper Guide Lower Bridge (p83)	11	PF Motor Assy (p83)
5	Porous Pad Paper Guide Lower (p83)	12	Board Assy Sub (p80)
6	Star Wheel Holder Assy (p83)	13	Main Board Assy (p80)
7	PS Unit (p80)	14	Wireless LAN USB Module (p78)

Figure 2-9. Printer Mechanism: Left



No.	Name	No.	Name
1	Upper Paper Guide (p82)	4	Pick Up Assy (p78)
2	Porous Pad Frame Cover Lower (p83)	5	ASF Bank Assy (p79)
3	Lower MSF Assy (p82)		

Figure 2-10. Printer Mechanism: Rear

2.1.5 Standard Operation Time for Servicing the Product

The following are the standard operation time for servicing the product. This standard operation time was determined with the MTTR result measured using the prototype.

The underlined parts/units are supplied as After Service Parts.

Table 2-1. Standard Operation Time

Parts/Unit	Time (mm:ss)		
	Replacement	Adjustment/ inspection	Total
Front Right Housing Assy	0:20		0:20
Document Cover	0:10		0:10
Pick Up Assy	1:11		1:11
Document Mat	0:10		0:10
Upper Front Housing Assy	0:29		0:29
Maintenance Box	0:47		0:47
Left Housing	0:56		0:56
SCN Unit	3:01	0:59	4:00
Upper Rear Housing	4:46		4:46
Wireless LAN USB Module	1:32		1:32
Right Housing Assy	4:35		4:35
Upper MSF Assy	2:00	9:28	11:28
Printer Mechanism	4:12	18:37	22:49
ASF Cover	1:08		1:08
APG Gear Assy	9:52		9:52
CR Guide Frame	6:19		6:19
Panel Side FFC Cover	4:29		4:29
PF Cover	4:25		4:25
Star Wheel Holder Holding Plate	4:44		4:44
ASF Bank Assy	5:12		5:12
AC Inlet Cover	4:34		4:34
AC Shield Plate	5:20		5:20
Card Slot Board Assy	6:04		6:04
Panel Bush	7:03		7:03
Panel Assy	6:18		6:18
Lower Right Housing Assy	9:15		9:15
Waste Ink Connector Holder	9:45		9:45
Waste Ink Connector Assy	9:49		9:49
PS Unit	8:47	3:37	12:24
Main Board Assy	16:54	13:42	30:36
Upper Main Board Shield Plate	12:25		12:25
Main Board	13:25	26:09	39:34
Lower Main Board Shield Plate	13:25		13:25
Lower Left Housing Assy	13:25	26:09	39:34

Table 2-1. Standard Operation Time

Parts/Unit	Time (mm:ss)		
	Replacement	Adjustment/ inspection	Total
Sub Board	14:43	0:56	15:39
Sub Board Shield Plate	14:36		14:36
Rack Damper	3:56		3:56
PF Gear Plate (w/PF Grounding Plate)	15:08		15:08
STK Gear Holder	15:23		15:23
Panel Frame Assy	19:20	0:18	19:38
Left Guide	12:40		12:40
Upper Left Guide	12:48		12:48
STK Assy	3:33		3:33
Damper, Gear	14:46		14:46
Combination Gear 22.4,17.5	12:32		12:32
PF Grounding Plate	4:37		4:37
PF Timing Belt Flange	4:42		4:42
PF Timing Belt	4:57		4:57
PF Pulley Holder Assy	5:41		5:41
PF Encoder	6:11		6:11
Ink System Assy	6:56		6:56
Ink System Assy Lower Porous Pad	6:56		6:56
ASF Encoder	6:02		6:02
SC Scale	6:08		6:08
STK Gear 21.6	5:29		5:29
I/S_APG Motor Assy	11:32		11:32
I/S_APG Encoder	12:07		12:07
SC Scale	12:11		12:11
I/S_APG Motor, Gear	12:12		12:12
I/S_APG Motor	12:54	0:50	13:44
I/S_APG Motor Grounding Plate	11:48		11:48
ASF Motor Assy	12:18	0:38	12:56
ASF Motor	12:53	0:38	13:31
CR Scale (w/Torsion Spring 12.84)	7:07		7:07
CSIC Assy	8:06		8:06
IC Guide	3:40		3:40
Head Side FFC Cover	7:11		7:11
Printhead	6:16	16:04	22:20
PW Sensor	6:47	9:14	16:01
FFC Assy	10:00		10:00
LD Roller Cover	7:10		7:10
Lower MSF Assy	8:14	9:28	17:42
Upper Paper Guide	10:02		10:02

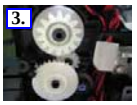
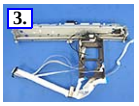
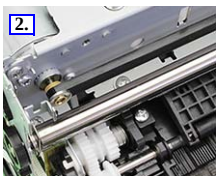
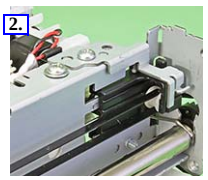
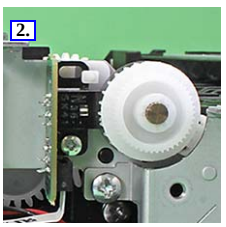
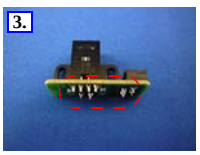
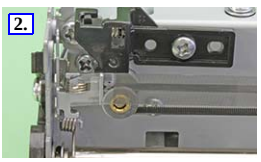
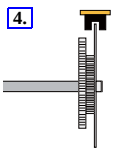
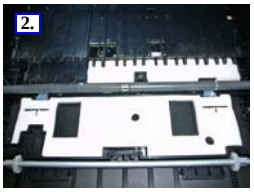
Table 2-1. Standard Operation Time

Parts/Unit	Time (mm:ss)		
	Replacement	Adjustment/ inspection	Total
CR Holder Lever	7:27		7:27
Left CR Frame (w/Torsion Spring 45.61)	7:57		7:57
CR Motor	8:49	0:29	9:18
Right CR Frame	13:02		13:02
Driven Pulley Holder	15:06		15:06
R/L APG Cam	15:36		15:36
CR Assy	16:24		16:24
Main Frame Assy	29:42	9:32	39:14
PE Sensor Unit	30:36	1:14	31:50
Frame Cover	30:18		30:18
Paper Guide Lower Porous Pad A	30:26	0:38	31:04
Star Wheel Holder Assy	30:44	2:08	32:52
Front Paper Guide Assy	32:28	3:46	36:14
Paper Guide Lower Front Porous Pad	32:41	0:38	33:19
PF Roller	32:51	2:35	35:26
PF Roller Support Bush	33:01		33:01
PF Support Frame	33:06		33:06
PF Motor Assy	33:29	0:23	33:52
Paper Guide Lower Front Porous Pad B	33:18	0:38	33:56
Parallelism Bush (L)	5:35	1:18	6:53
Parallelism Bush (R)	4:22	1:18	5:40

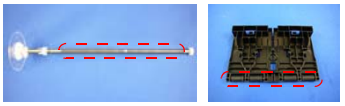
2.2 Common cautions when disassembling/reassembling the Product

This section describes common cautions when disassembling/reassembling the product.

Before disassembling/reassembling the printer including this product, be sure to read "Safety Precautions(p3)" and this section.

Item	Content	Photo/Illustration
When handling parts	1. When handling new parts for replacement, take care not to contaminate or damage them. 2. When disassembling/reassembling the parts, take care not to damage the FFCs/cables/Ink tube if there is a possibility of coming into contact with them. 3. When reassembling the product, take care not to let components of the unit come off.	AC Shield Plate  Damper, Gear  CR Guide Rail Assy
When reassembling	When installing parts, take care not to damage them when securing them by tightening screws.	---
When applying grease	Do not lubricate any part other than those specified. If grease is applied on such a part, wipe it off completely.	---
External parts	Confirm visually that there are no scratches, dirt, and gaps.	---
Moving parts	After reassembling, confirm that there are no abnormal noises and they work smoothly.	---
Timing belts	1. Take care not to fold them during installation. 2. Confirm that it is installed properly onto the transmissive sections of the pinion gear/driven roller.	 
Motors	Take care not to damage the pinion gears.	---
Sensors	1. Take care not to touch the detector sections. 2. As for the encoder Sensor used with a circular scale, the photo sensor section should be set over the encoded area of the circular scale. 3. Take care not to get injured by the sharp ends of the board terminal on the back of the circuit boards when handling the sensors or the peripheral parts.	 
Scales	1. Take care not to touch the encoded area. 2. Install it with the black triangular section down. (CR Scale only) 3. Wipe off alcohol before installing. (CR Scale only) 4. Confirm that they do not touch the photo sensors after installation.	 
Waste ink pads	1. Take care not to stain your hands with the waste ink soaked in the ink pads. If ink comes into contact with your hands, wash it off with water immediately. 2. Take care not to stain the printer's parts with the waste ink soaked in the ink pads. If ink comes into contact with the parts, wash it off. (Especially, pay attention to Paper Guide Front/Lower Porous Pad)	
FFCs	1. Be sure to insert them to their connectors on the boards as far as they will go without any loose connection such as a half-way or slant connection. 2. Route them along their routing paths. 3. If the double-sided tape that secures the FFCs is not strong enough to secure them, make sure to replace the tape and secure the FFCs firmly.	---

Confidential

Item	Content	Photo/Illustration
Gears	When installing gears, pay attention to the following: • The gear section should not be damaged. • No foreign material is attached. • No grease is attached on any parts other than those specified.	---
PF rollers	Do not touch rollers for paper feeding when handling them.	
One Time parts	After removing One Time parts specified in this manual, do not reuse them, but be sure to replace them with new ones.	One Time icon:
ADF/ Scanner Unit	When disassembling/reassembling the ADF/Scanner Unit, make sure to do the work with the unit open to prevent damage to the Hinges.	
Ink System	1. Take care not to stain your hands with ink. 2. When you connect the ink tube to another part, insert the ink tube up to the root of the joint to prevent ink leakage and secure the tube with the tube clamp. 3. If it's hard to insert the ink tube to the joint, apply CR06 to the inserting part of the ink tube.	---
MAC Address Label	1. Take care not to stain or damage it. 2. When replacing the printer mechanism, attach the Main Board and the part with the MAC address label to the new printer mechanism.	

2.3 Disassembly/Reassembly Procedures

2.3.1 Parts/units to be removed before disassembly and reassembly

In "2.3.2 Disassembly Flowchart (p70)", the procedures are indicated on the premise that some parts/units are removed in advance. Make sure to remove the following parts/units before starting disassembly.

- ☐ Lower Tray/Upper Tray/CDR Tray

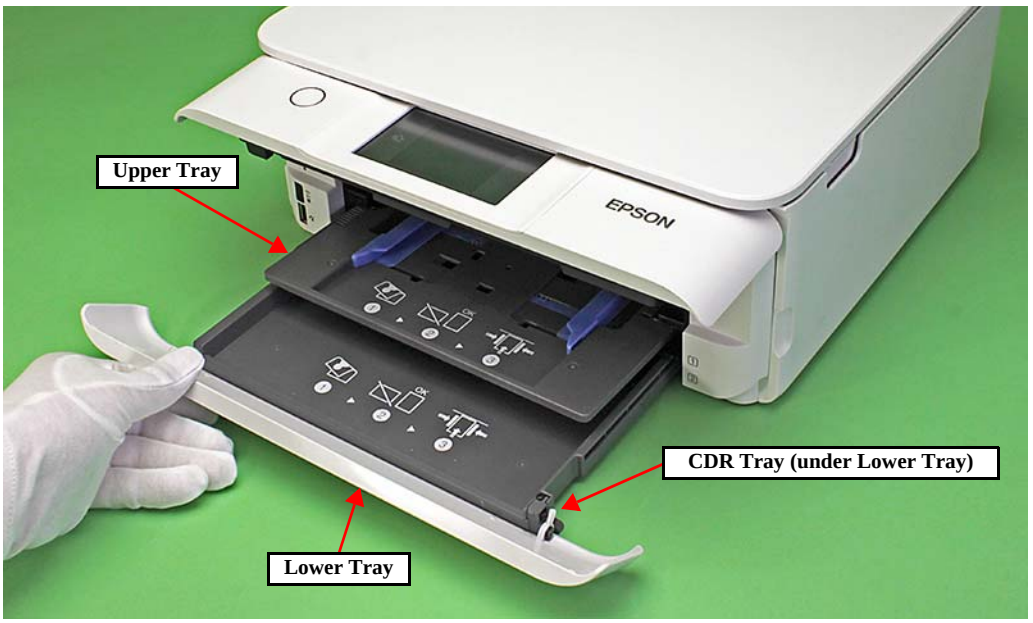


Figure 2-11. Removing Lower/Upper Tray

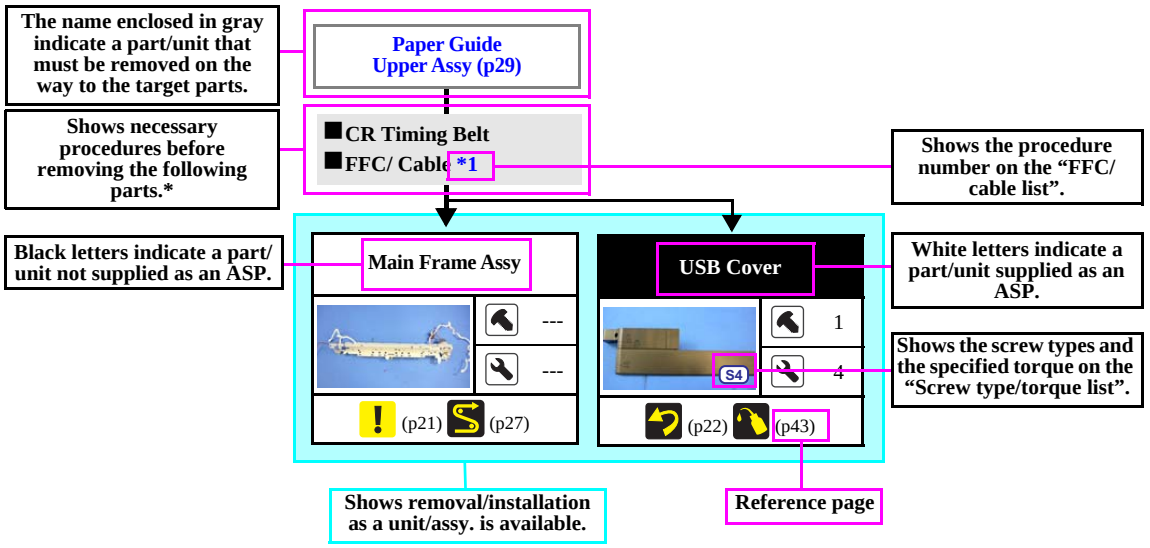
- ☐ Duplex Unit

Figure 2-12. Removing Duplex Unit

2.3.2 Disassembly Flowchart

This section describes procedures for disassembling the parts/units in a flowchart format. For some parts/units, detailed procedures or precautions are provided (accordingly indicated by icons and cell's color). Refer to the explanations in the example chart below and perform an appropriate disassembling and assembling procedure. (See "2.6 Detailed Disassembly/Reassembly Procedure for each Part/Unit (p85)".)
For routing cables, see "2.7 Routing Cables/FFCs (p91)".

The example below shows how to see the charts on the following pages.

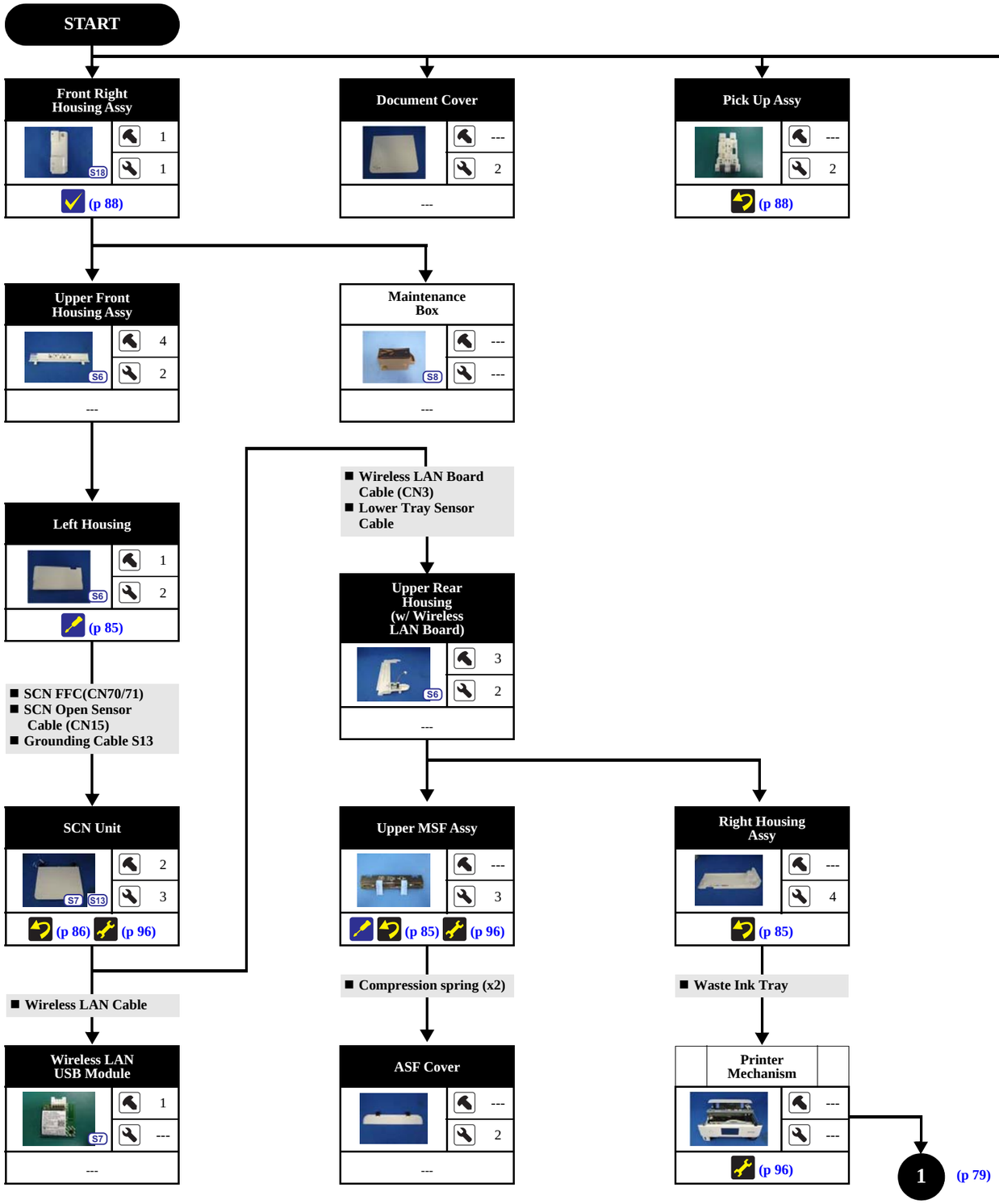

The name enclosed in gray indicate a part/unit that must be removed on the way to the target parts.
Paper Guide Upper Assy (p29)
Shows necessary procedures before removing the following parts.*
CR Timing Belt
FFC/ Cable *1
Shows the procedure number on the "FFC/ cable list".
Black letters indicate a part/ unit not supplied as an ASP.
Main Frame Assy
USB Cover
White letters indicate a part/unit supplied as an ASP.

1
4
S4
Shows the screw types and the specified torque on the "Screw type/torque list".
(p21)
(p27)
(p22)
(p43)
Shows removal/installation as a unit/assy. is available.
Reference page

Note "*": The box with only part names means the removal of the parts. If the name of FFC or a cable is shown, disconnect the FFC or cable from the connector.

Item		Description	Reference
Parts/unit name	White-letter	Part/unit supplied as an ASP	---
	Black-letter	Part/unit not supplied as an ASP	---
Icon		Indicates a practice or condition that could result in injury or loss of life if not strictly observed.	Indicates the reference page in blue-letter
		Indicates a practice or condition that could result in damage to, or destruction of equipment if not strictly observed.	Indicates the reference page in blue-letter
		Indicates the parts that are inevitably broken in the disassembling procedure, and should be replaced with a new one for reassembly.	Indicates the reference page in blue-letter
		Indicates necessary check items in the disassembling/ assembling procedure.	Indicates the reference page in blue-letter
		Indicates supplementary explanation for disassembly is given.	Indicates the reference page in blue-letter
		Indicates particular tasks to keep quality of the units are required.	Indicates the reference page in blue-letter
		Indicates particular routing of cables is required.	Indicates the reference page in blue-letter
		Indicates particular adjustment(s) is/are required.	Chapter 3 " Adjustment (p96)"
		Indicates lubrication is required.	Chapter 4 " Maintenance (p119)"
		Indicates the number of screws securing the parts/ units.	---
		Indicates the points secured with other than a screw such as a hook, rib, dowel or the like.	---

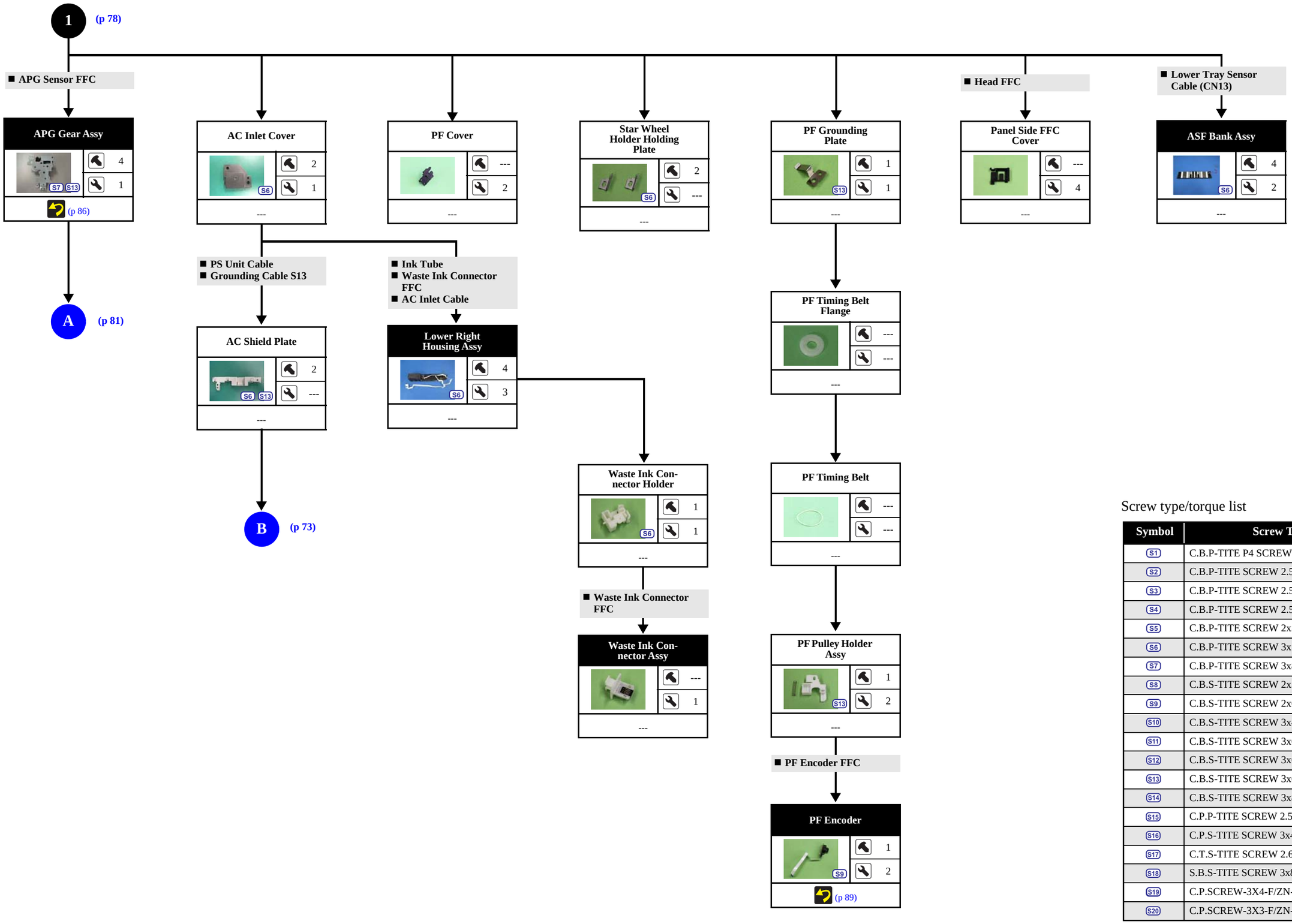
2.5.4.10 XP-8500/XP-8505 Disassembly Flowchart



Flowchart 0-1. Disassembly/Reassembly Flowchart (1)

Screw type/torque list

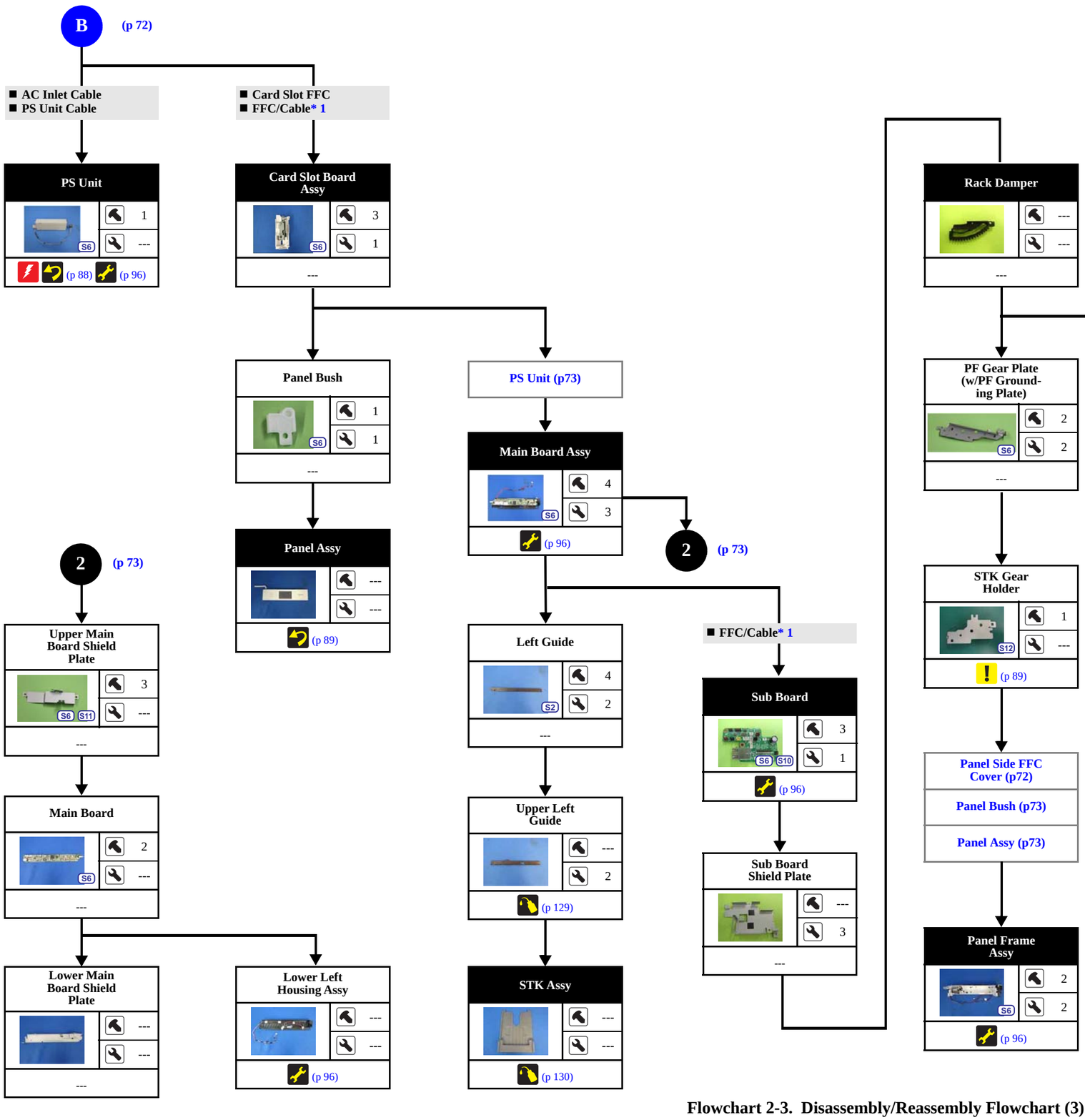
Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm



Flowchart 2-2. Disassembly/Reassembly Flowchart (2)

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm



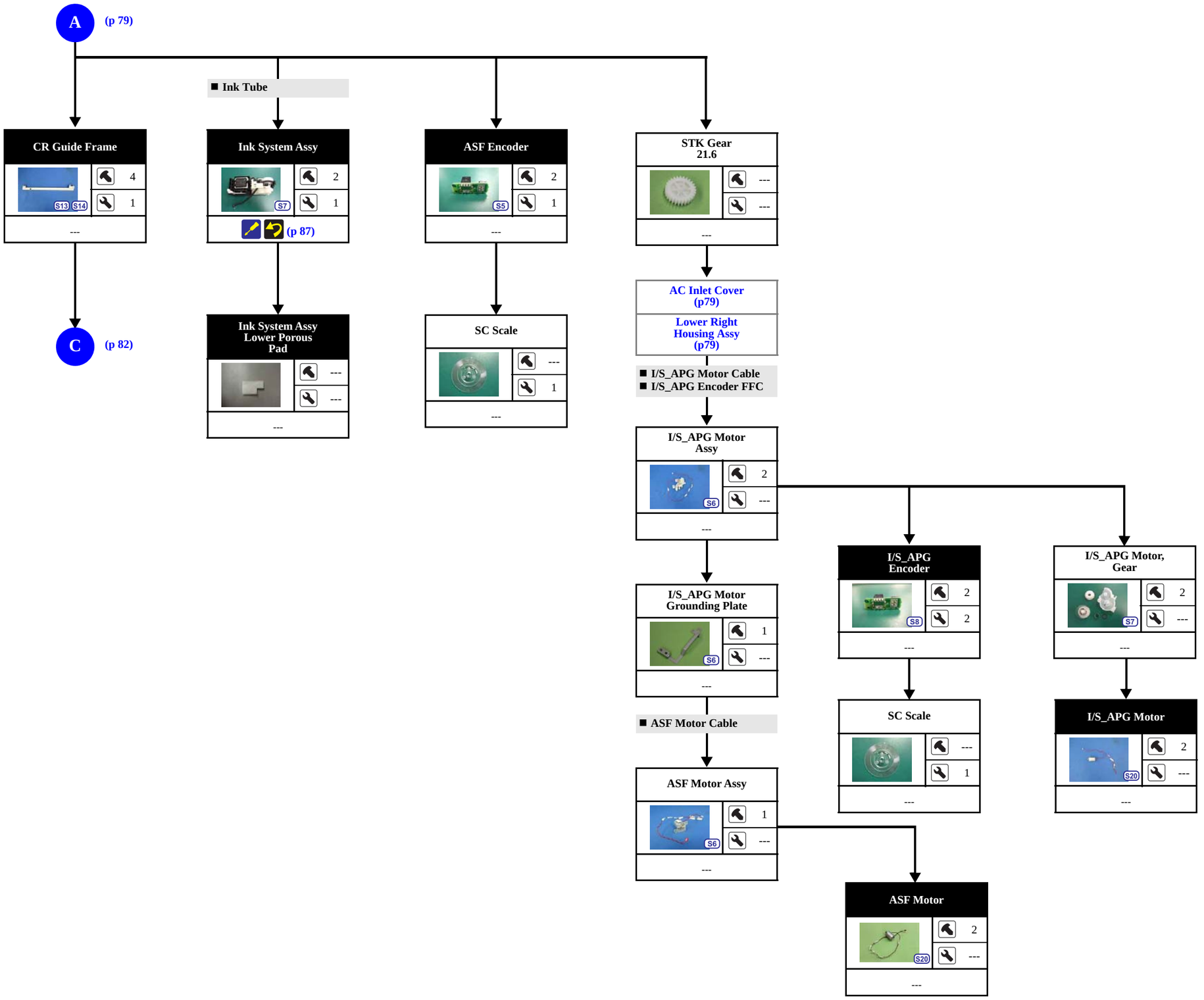
Flowchart 2-3. Disassembly/Reassembly Flowchart (3)

FFC/Cable List

No.	FFC/Cable
1	See " Routing Cables/FFCs (p91)" for the details.

Screw type/torque list

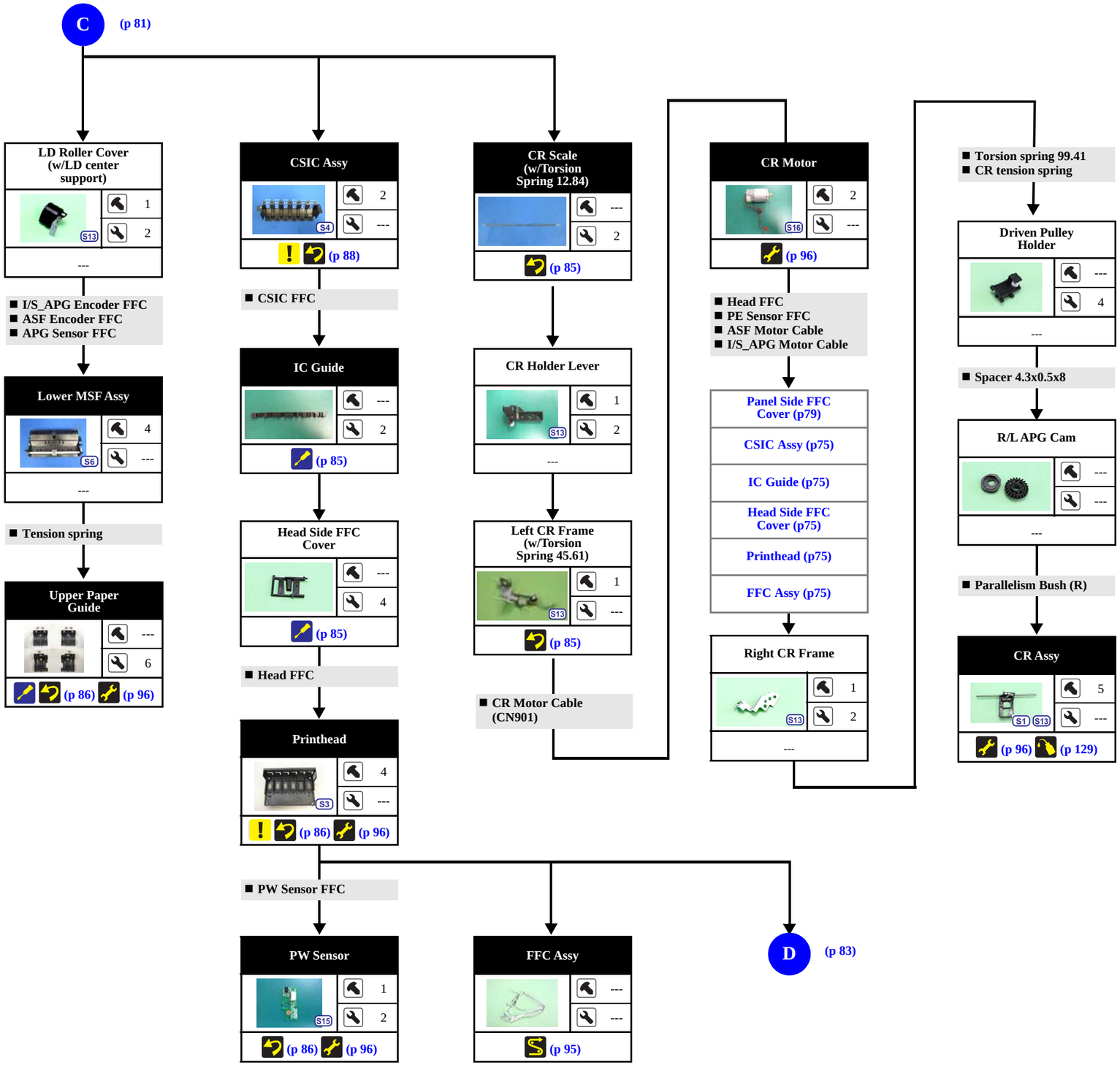
Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm



Flowchart 2-4. Disassembly/Reassembly Flowchart (4)

Screw type/torque list

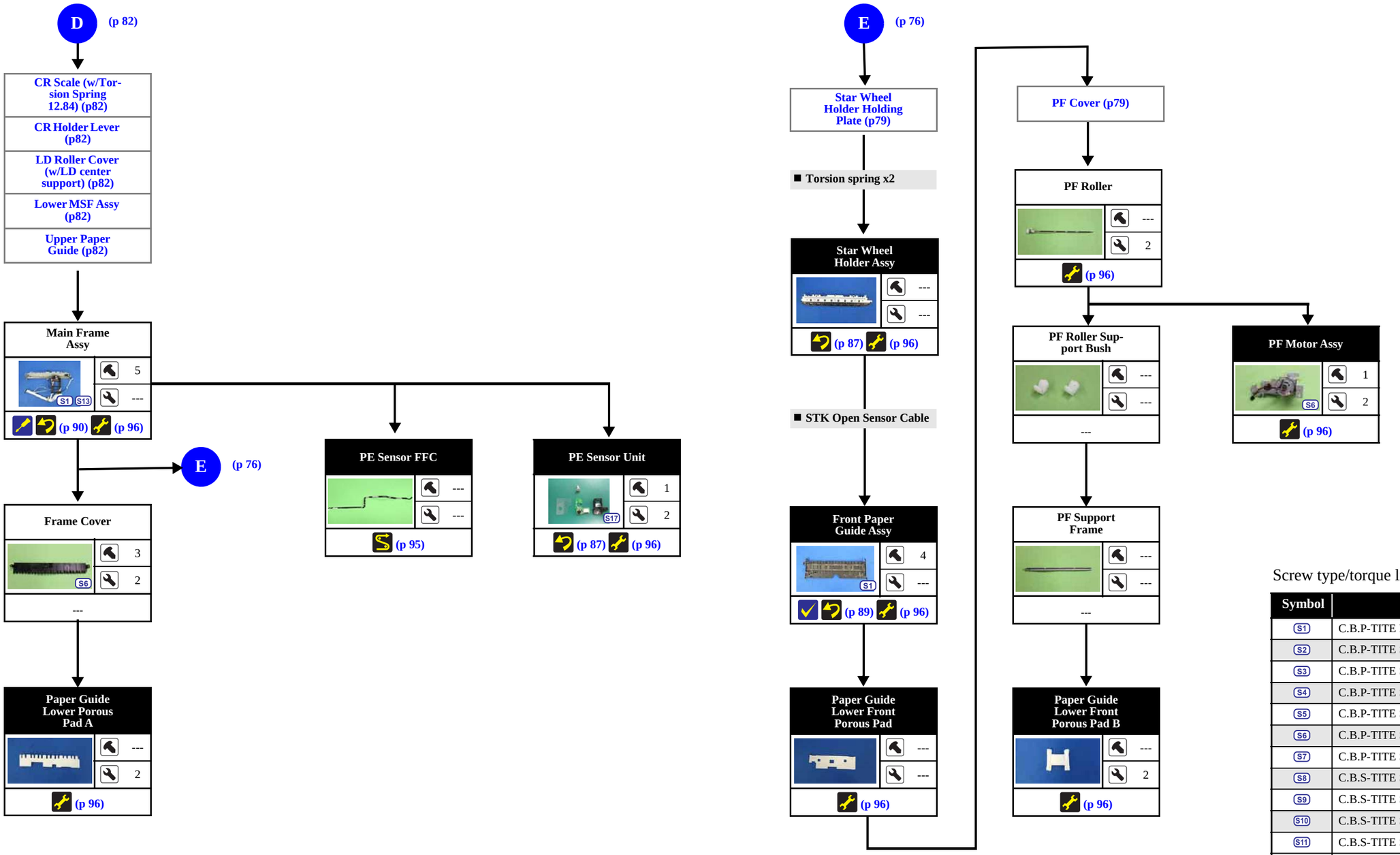
Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm



Flowchart 2-5. Disassembly/Reassembly Flowchart (5)

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm

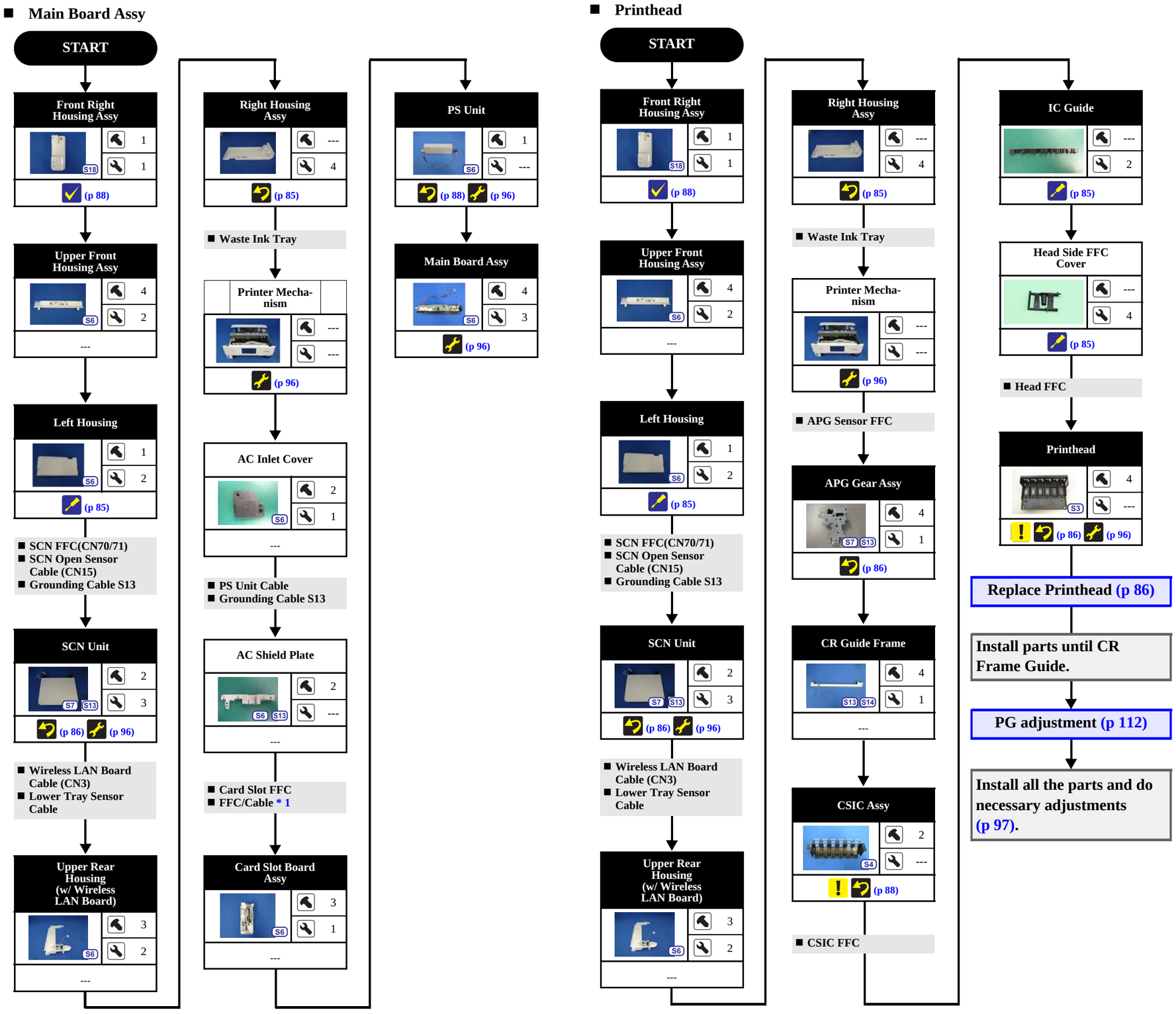


Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm

Flowchart 2-6. Disassembly/Reassembly Flowchart (6)

3.5.1.1 Disassembly Flowchart (Main Board Assy/Printhead): XP-8500/XP-8005



Flowchart 2-7. Disassembly/Reassembly Flowchart (Main Board Assy/Printhead)

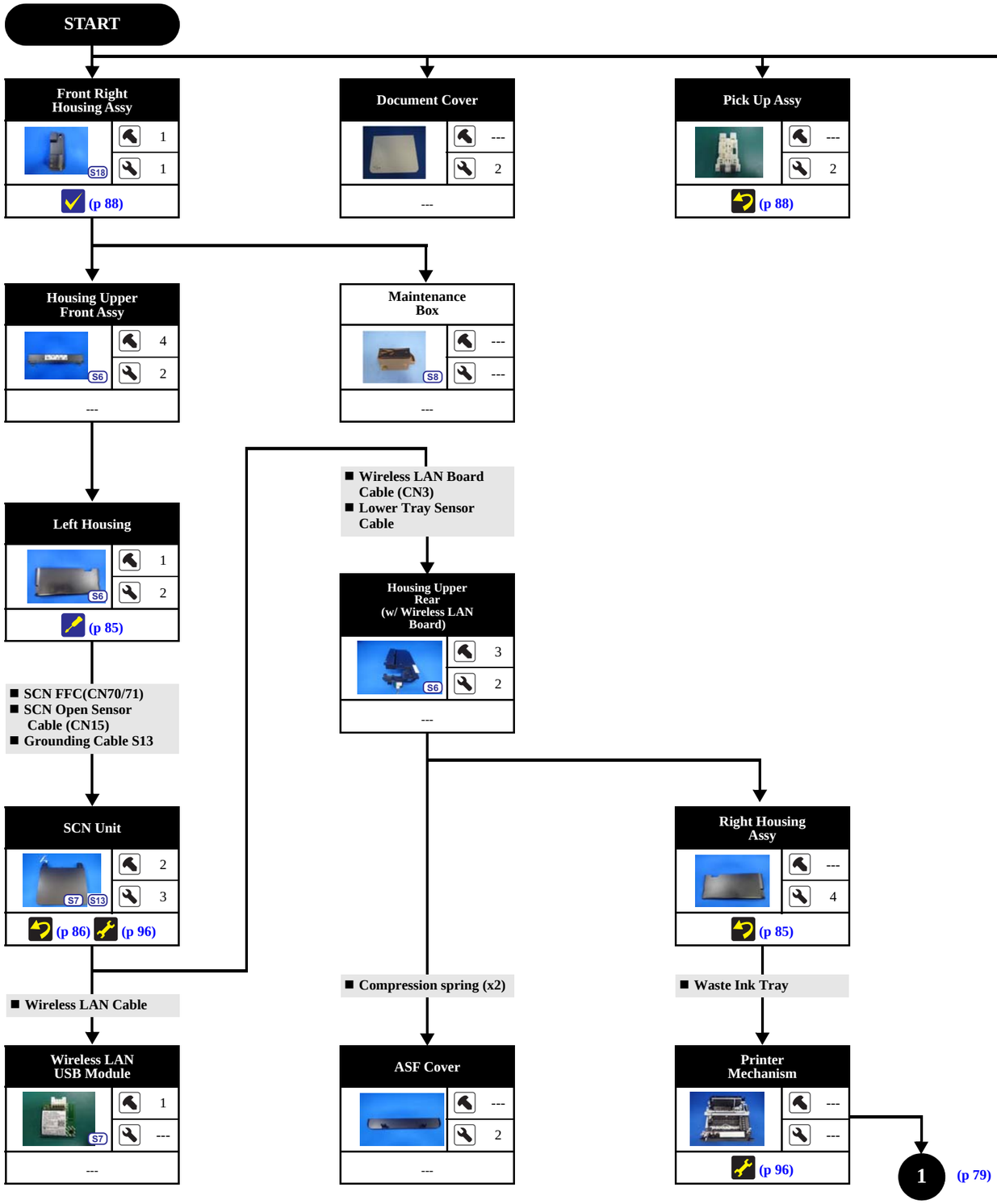
FFC/Cable List

No.	FFC/Cable
1	See " Routing Cables/FFCs (p91)" for the details.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm

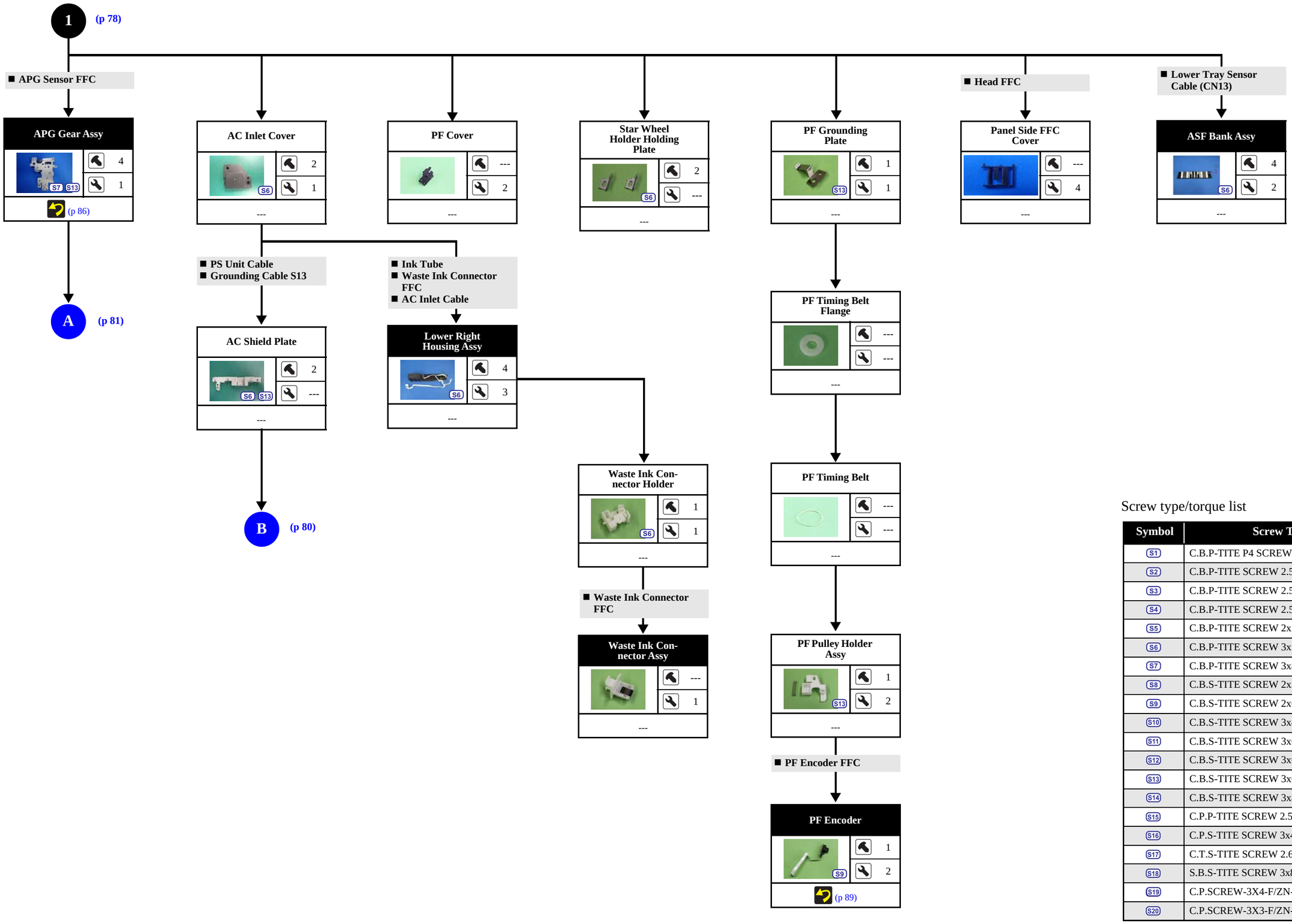
3.5.1.1 XP-6000/XP-6001/XP-6005 Disassembly Flowchart



Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm

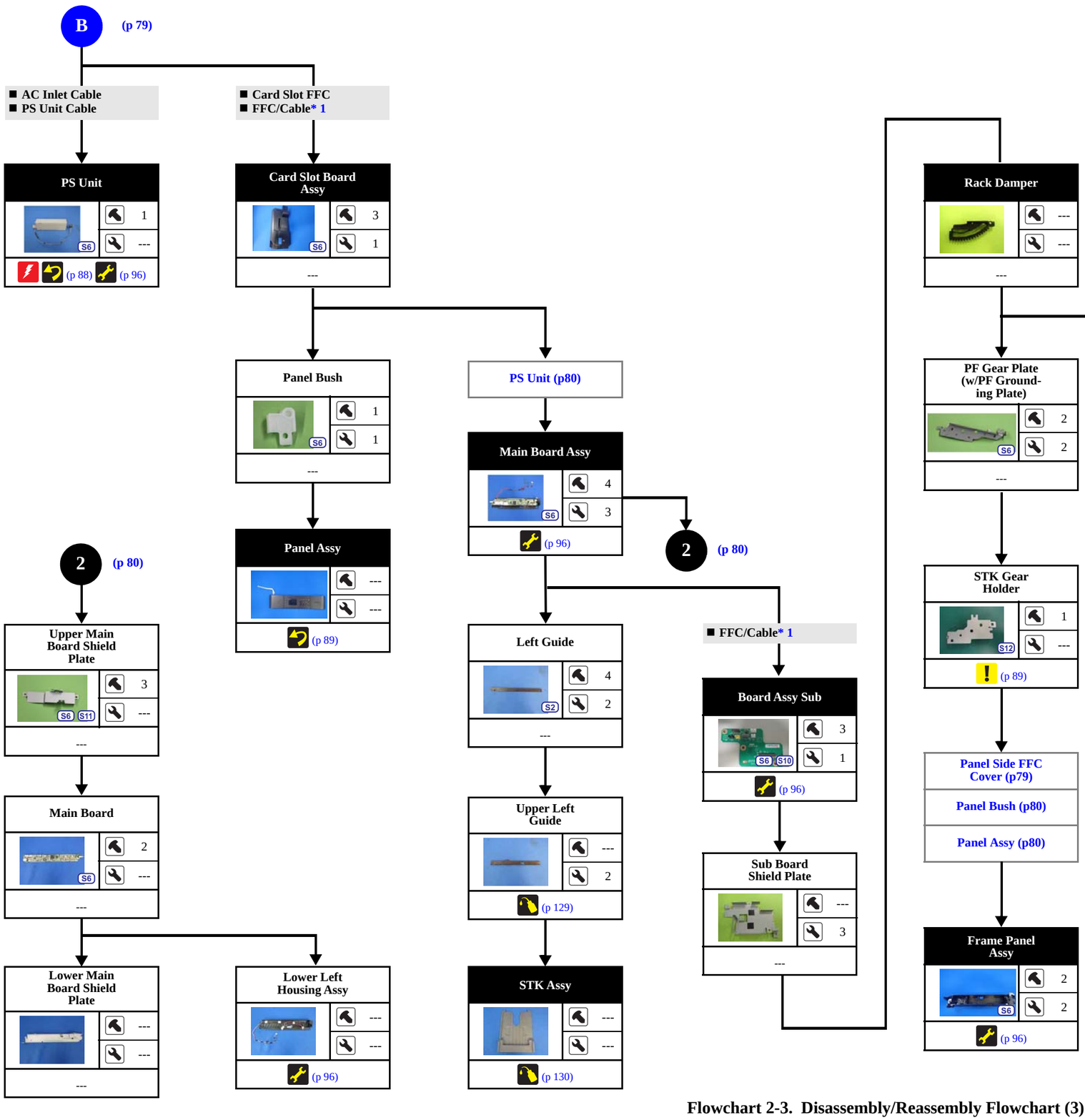
Flowchart 0-1. Disassembly/Reassembly Flowchart (1)



Flowchart 2-2. Disassembly/Reassembly Flowchart (2)

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm



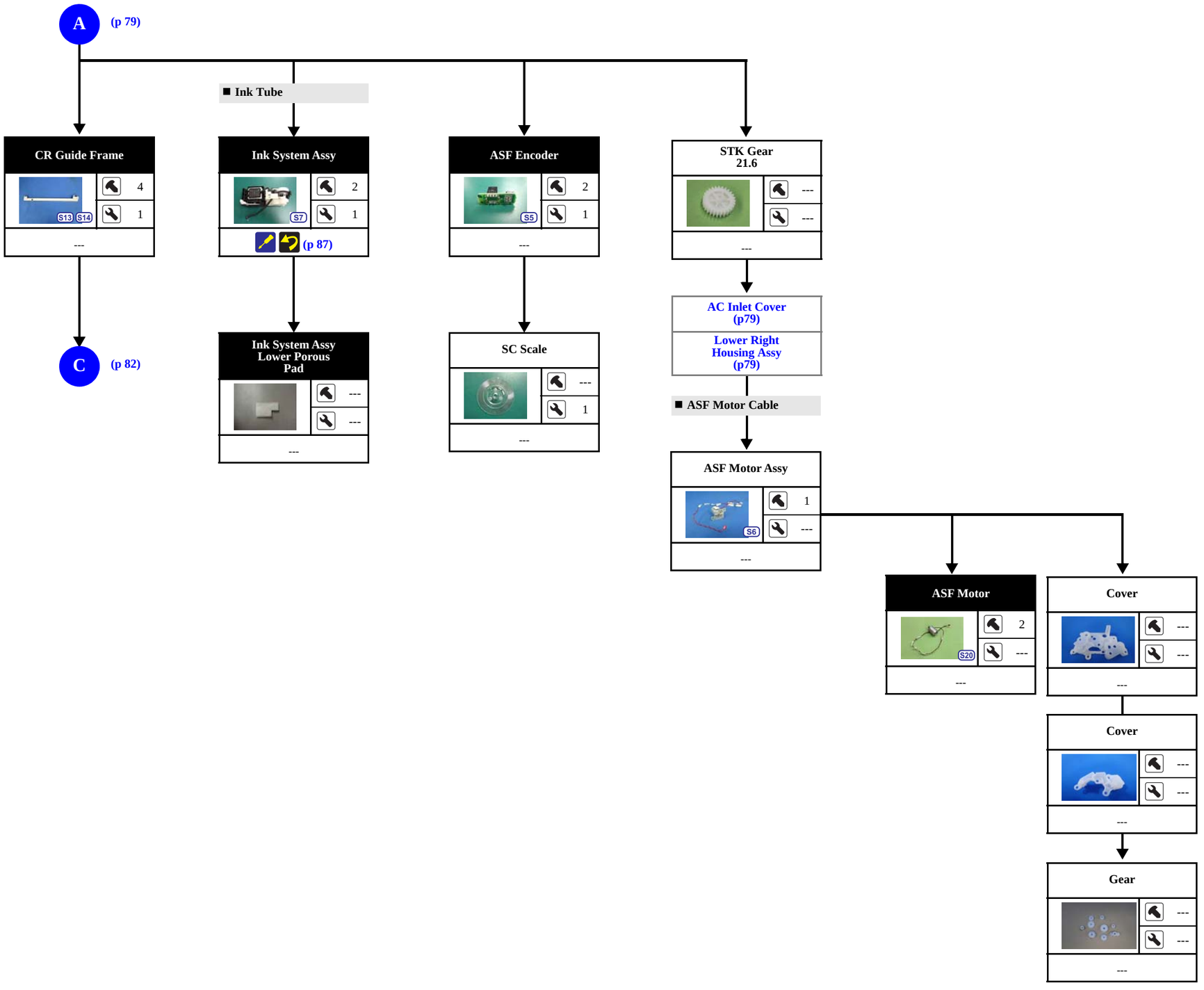
Flowchart 2-3. Disassembly/Reassembly Flowchart (3)

FFC/Cable List

No.	FFC/Cable
1	See " Routing Cables/FFCs (p91)" for the details.

Screw type/torque list

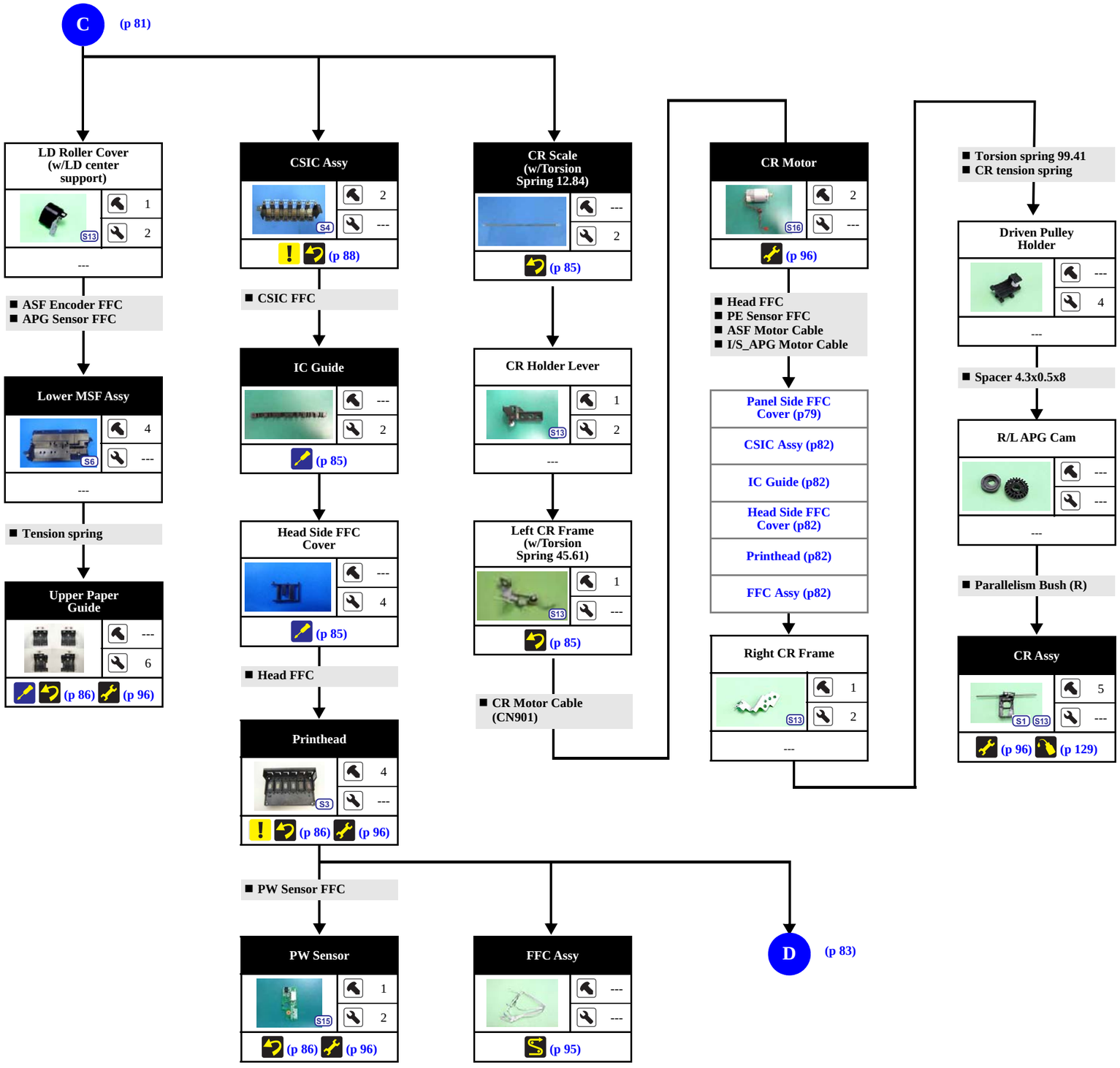
Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm



Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm

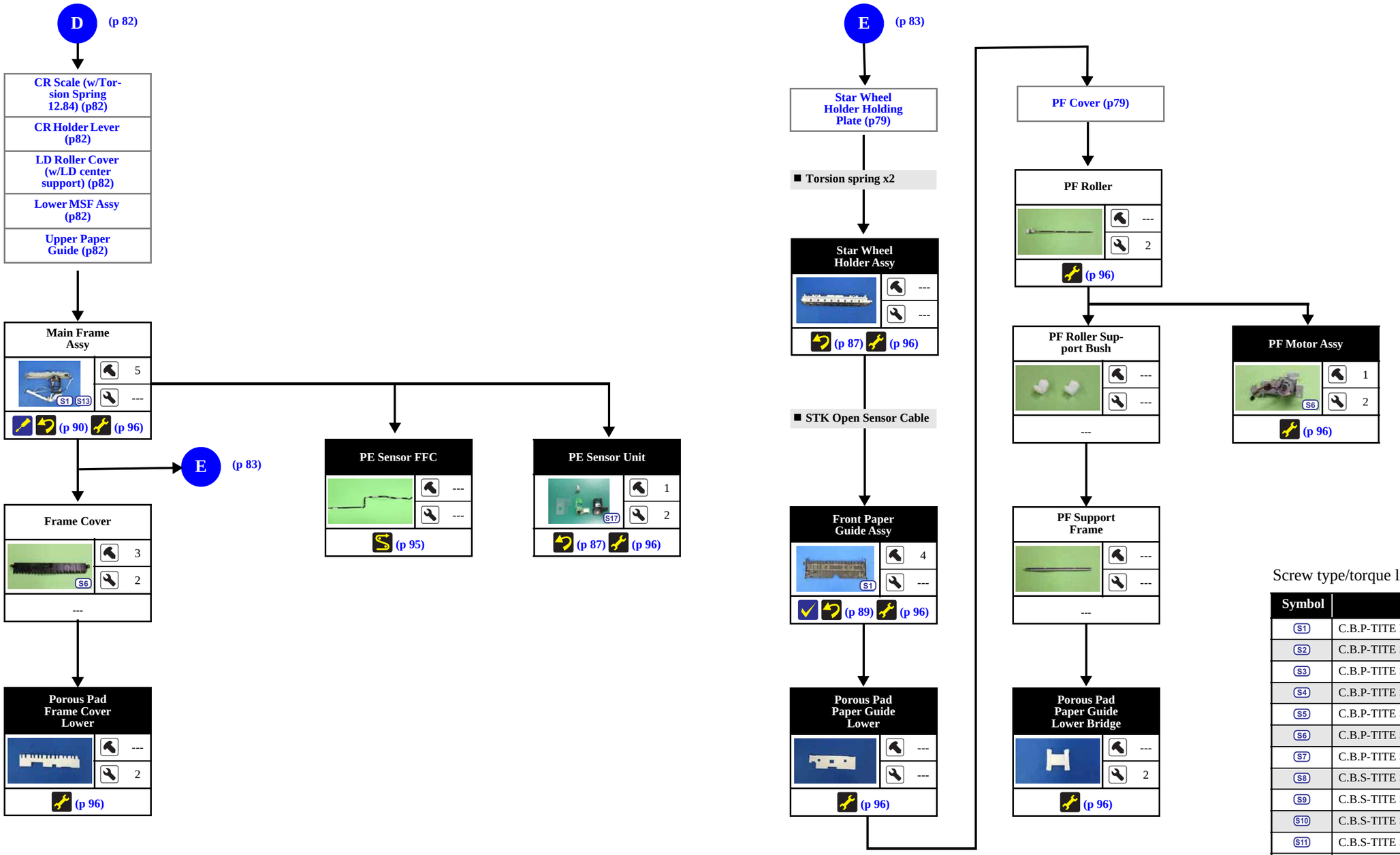
Flowchart 2-4. Disassembly/Reassembly Flowchart (4)



Flowchart 2-5. Disassembly/Reassembly Flowchart (5)

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm



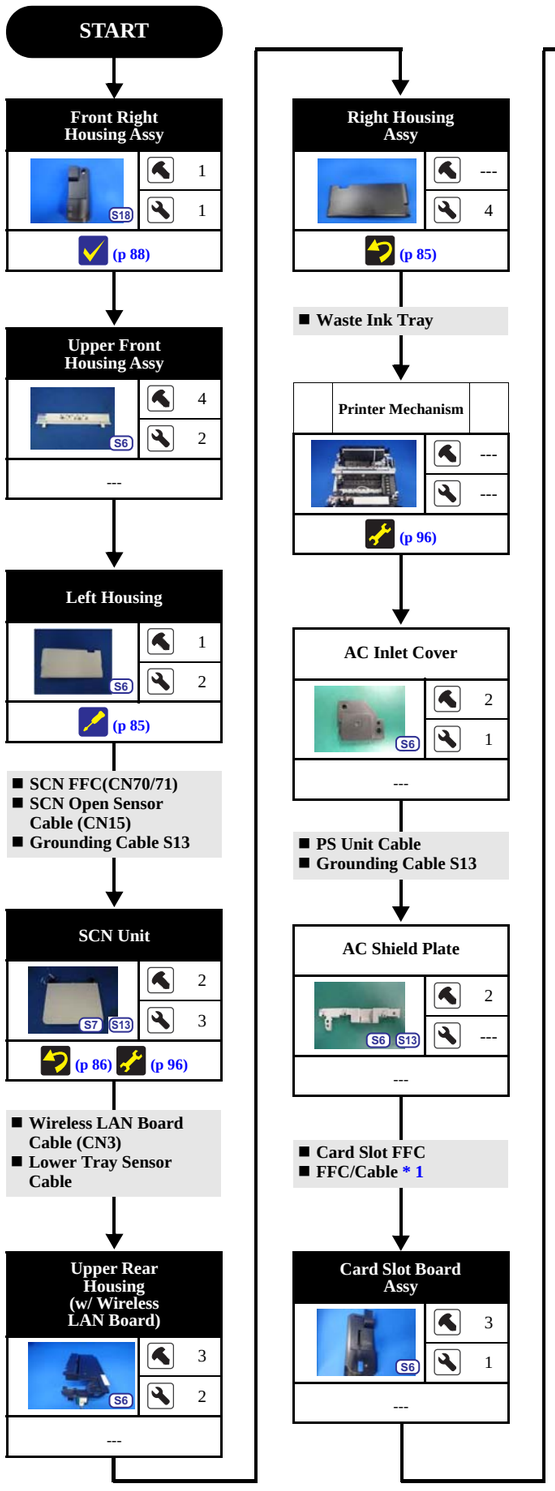
Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm

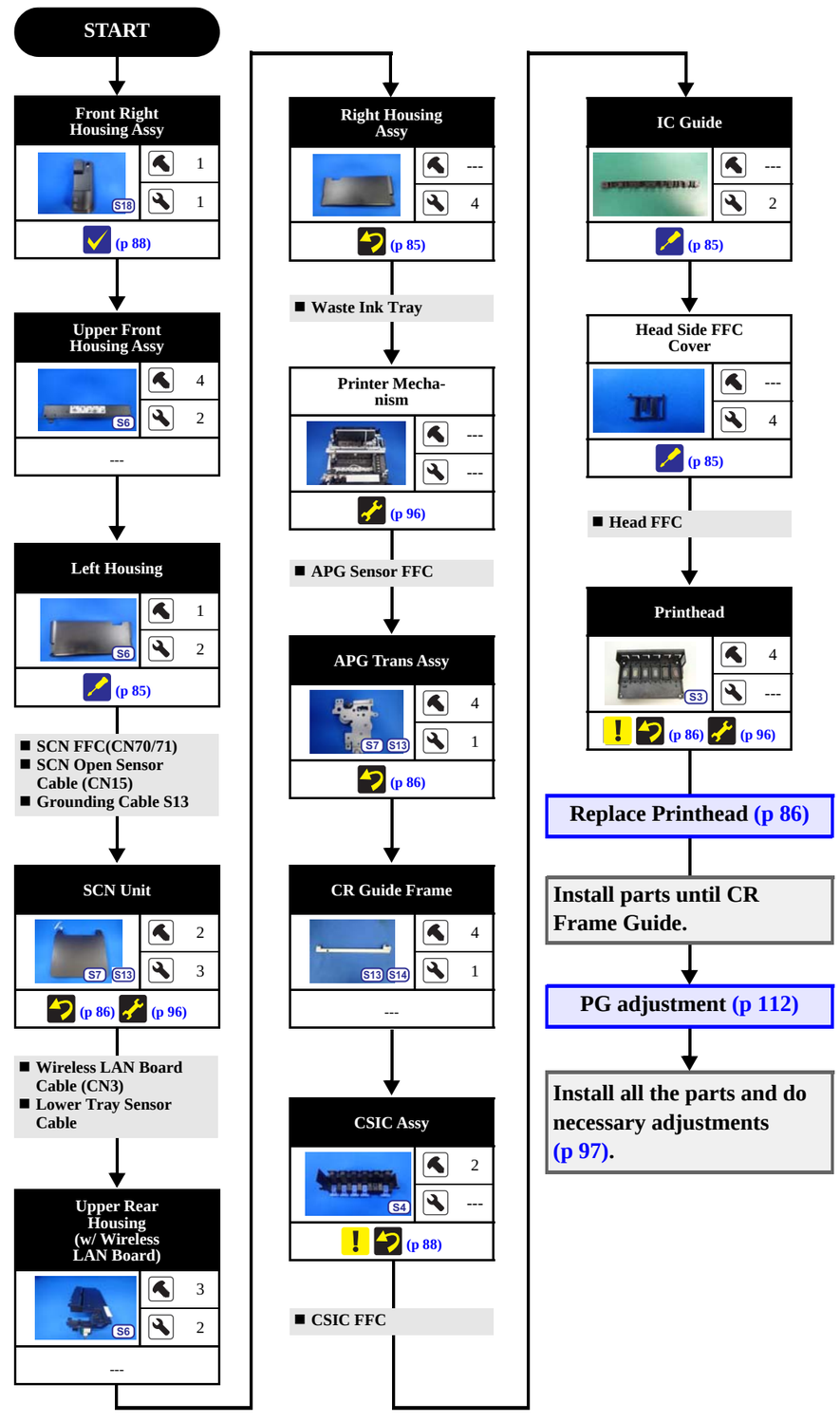
Flowchart 2-6. Disassembly/Reassembly Flowchart (6)

3.5.1.1 Disassembly Flowchart (Main Board Assy/Printhead): XP-6000/XP-6001/XP-6005

■ **Main Board Assy**



■ **Printhead**



Flowchart 2-7. Disassembly/Reassembly Flowchart (Main Board Assy/Printhead)

FFC/Cable List

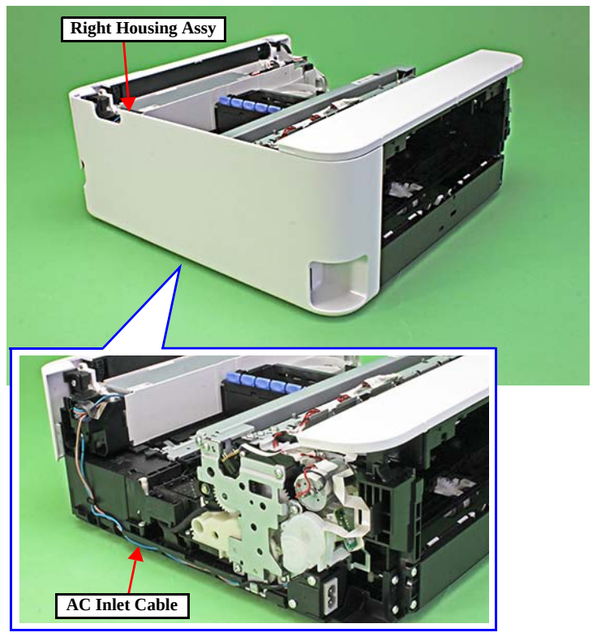
No.	FFC/Cable
1	See " Routing Cables/FFCs (p91)" for the details.

Screw type/torque list

Symbol	Screw Type	Torque
S1	C.B.P-TITE P4 SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S2	C.B.P-TITE SCREW 2.5x10 F/ZN-3C	6 ± 1 kgfcm
S3	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	3 ± 0.5 kgfcm
S4	C.B.P-TITE SCREW 2.5x6 F/ZN-3C	4.5 ± 0.5 kgfcm
S5	C.B.P-TITE SCREW 2x5 F/ZN-3C	1.7 kgfcm
S6	C.B.P-TITE SCREW 3x10 F/ZN-3C	6 ± 1 kgfcm
S7	C.B.P-TITE SCREW 3x8 F/ZN-3C	6 ± 1 kgfcm
S8	C.B.S-TITE SCREW 2x5 F/ZN-3C	3 ± 1 kgfcm
S9	C.B.S-TITE SCREW 2x6 F/ZN-3C	4 ± 1 kgfcm
S10	C.B.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S11	C.B.S-TITE SCREW 3x6 F/ZN-3C	5 ± 0.5 kgfcm
S12	C.B.S-TITE SCREW 3x6 F/ZN-3C	6 ± 1 kgfcm
S13	C.B.S-TITE SCREW 3x6 F/ZN-3C	8 ± 1 kgfcm
S14	C.B.S-TITE SCREW 3x8 F/ZB-3C	8 ± 1 kgfcm
S15	C.P.P-TITE SCREW 2.5x4 F/ZN-3C	3.5 ± 0.5 kgfcm
S16	C.P.S-TITE SCREW 3x4 F/ZN-3C	6 ± 1 kgfcm
S17	C.T.S-TITE SCREW 2.6x0.5 F/ZN-3C	4 ± 1 kgfcm
S18	S.B.S-TITE SCREW 3x8 F/ZN-3C	TBD
S19	C.P.SCREW-3X4-F/ZN-3C	3 ± 1 kgfcm
S20	C.P.SCREW-3X3-F/ZN-3C	3 ± 1 kgfcm

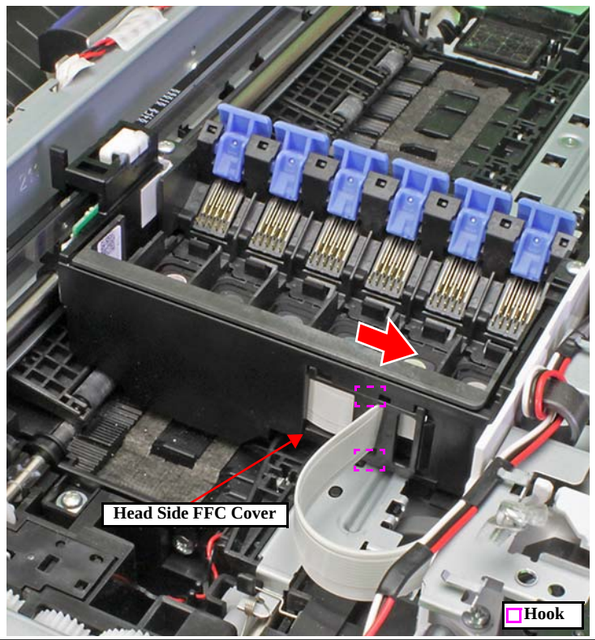
2.6 Detailed Disassembly/Reassembly Procedure for each Part/Unit

Right Housing Assy



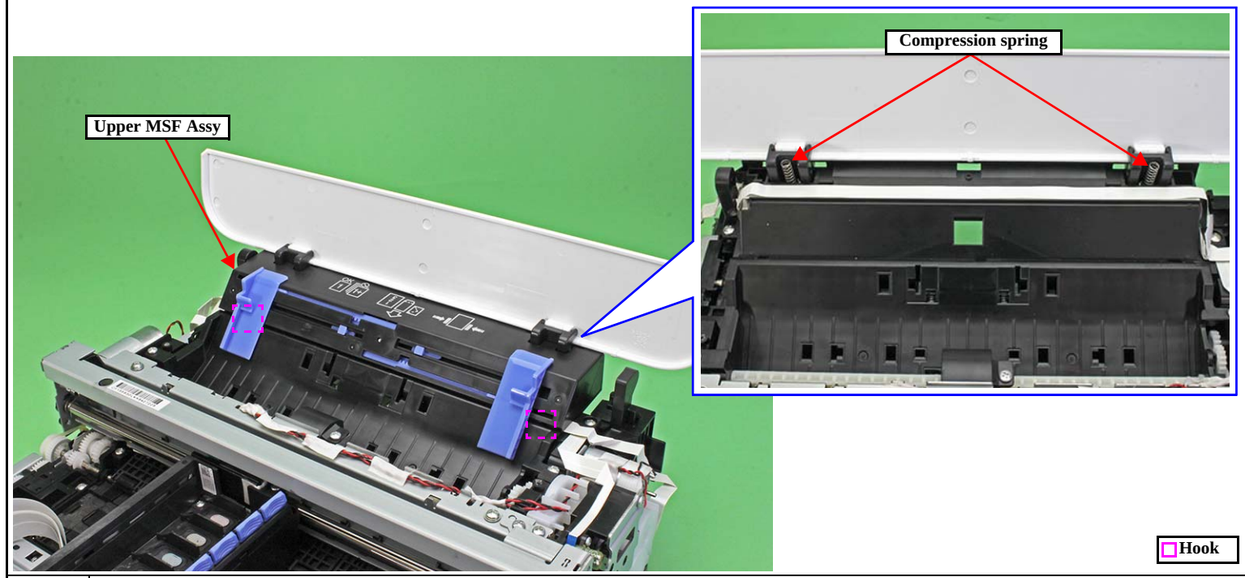
When Installing the Right Housing Assy, be careful not to catch the AC Inlet Cable in between.

Head Side FFC Cover



Release the two hooks shown above by sliding the Head Side FFC Cover in the arrow direction to remove it.

Upper MSF Assy (XP-8500/XP-8505)



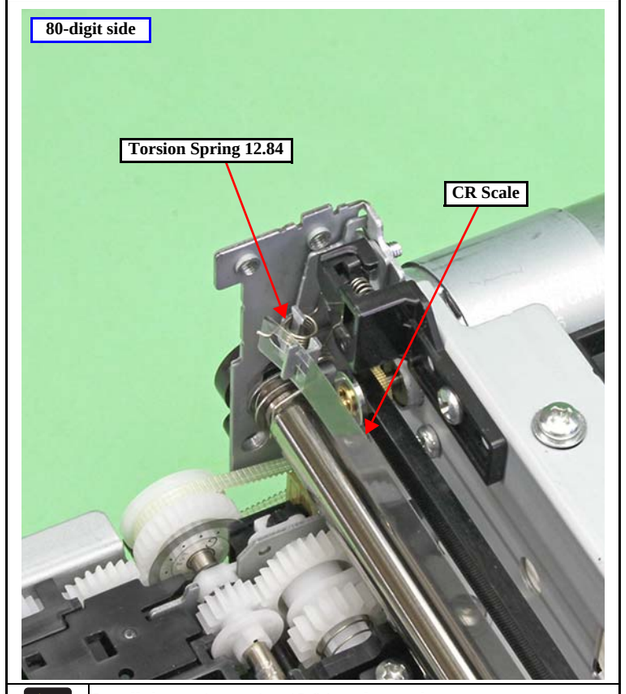
Remove the Upper MSF Assy by releasing the two hooks shown above.

Insert the two compression springs into the points shown above before installing the Upper MSF Assy.

Left Housing

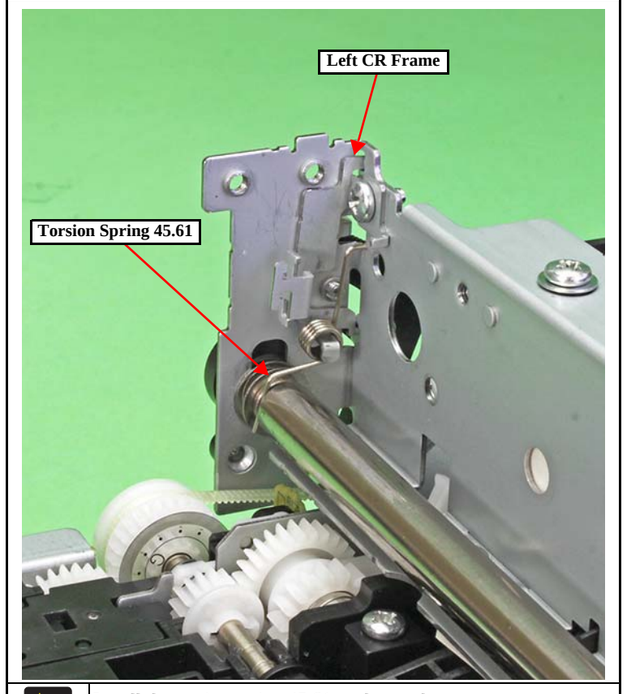
Release the four hooks by sliding Left Housing in the arrow direction to remove it.

CR Scale (w/Torsion Spring 12.84)



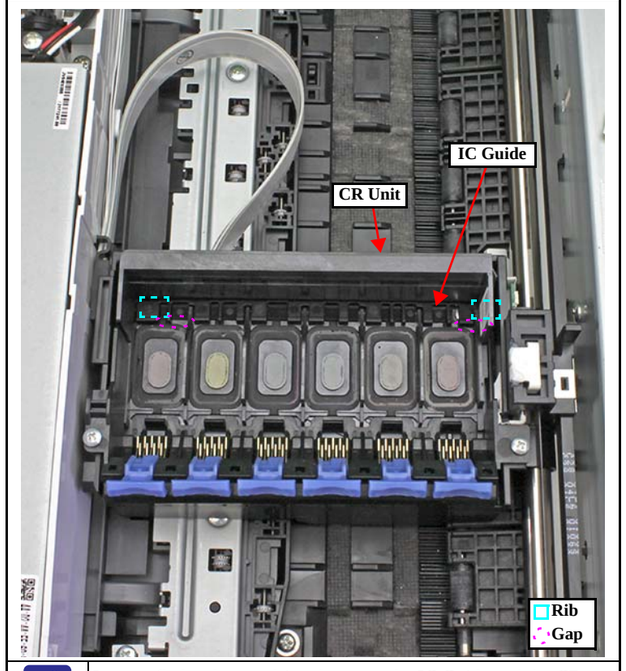
Install the torsion spring 12.84 as shown above.

Left CR Frame (w/Torsion Spring 45.61)



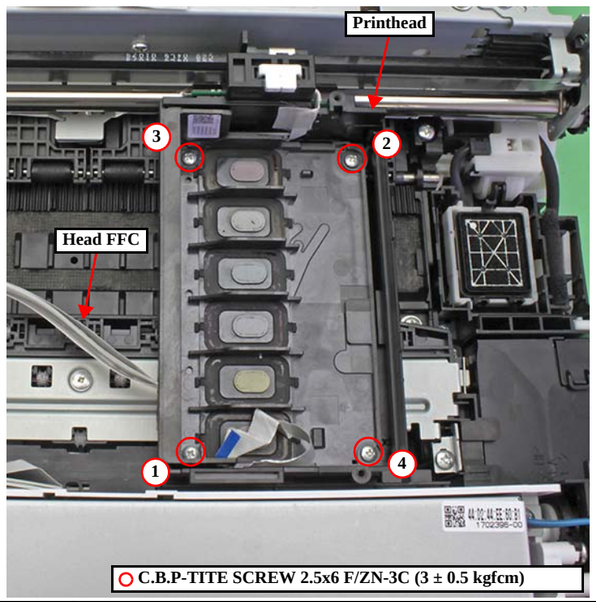
Install the torsion spring 45.61 as shown above.

IC Guide



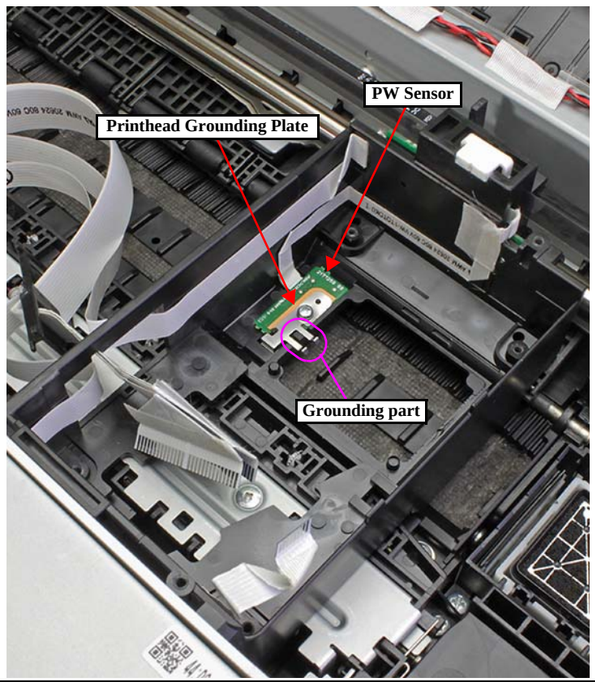
Insert a flathead screwdriver between the IC Guide and the CR Unit, and release the two ribs by warping the IC Guide to remove it.

Printhead



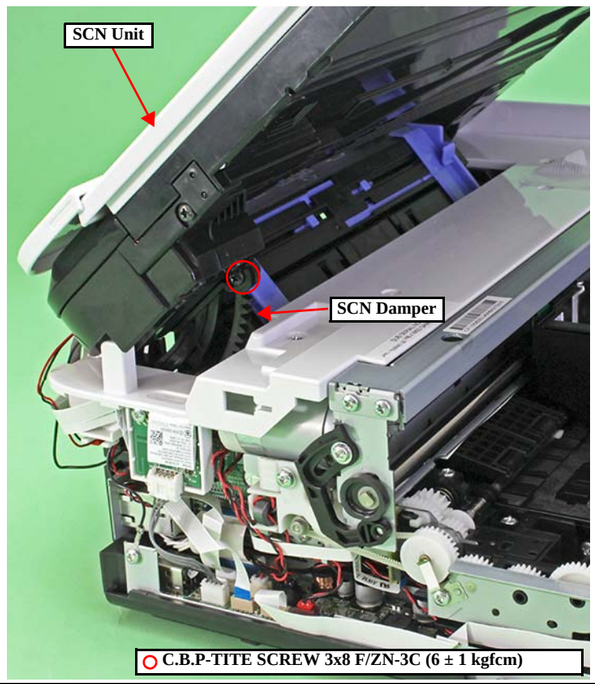
!	When disassembling/reassembling the Printhead, be careful not to damage the Head FFC while working in a narrow space.
	When installing the Printhead, make sure the four corners are inserted fully, and then screw it in the order shown above.

PW Sensor



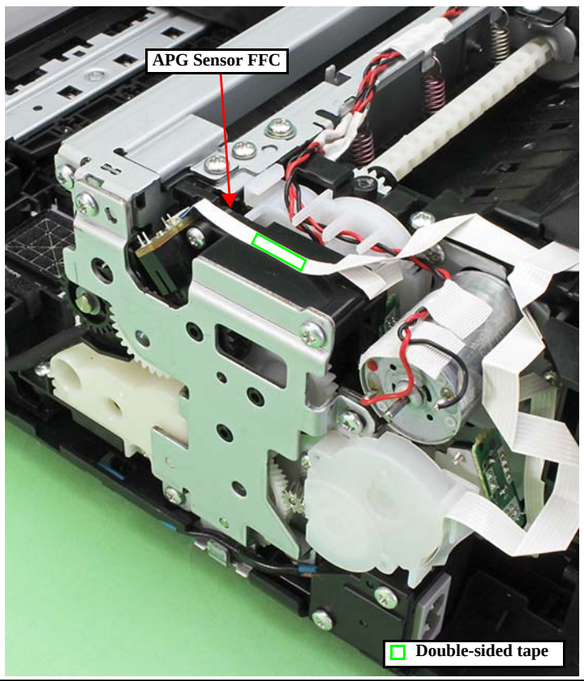
	Installing the PW Sensor with the grounding contacts of the Printhead Grounding Plate up.

SCN Unit



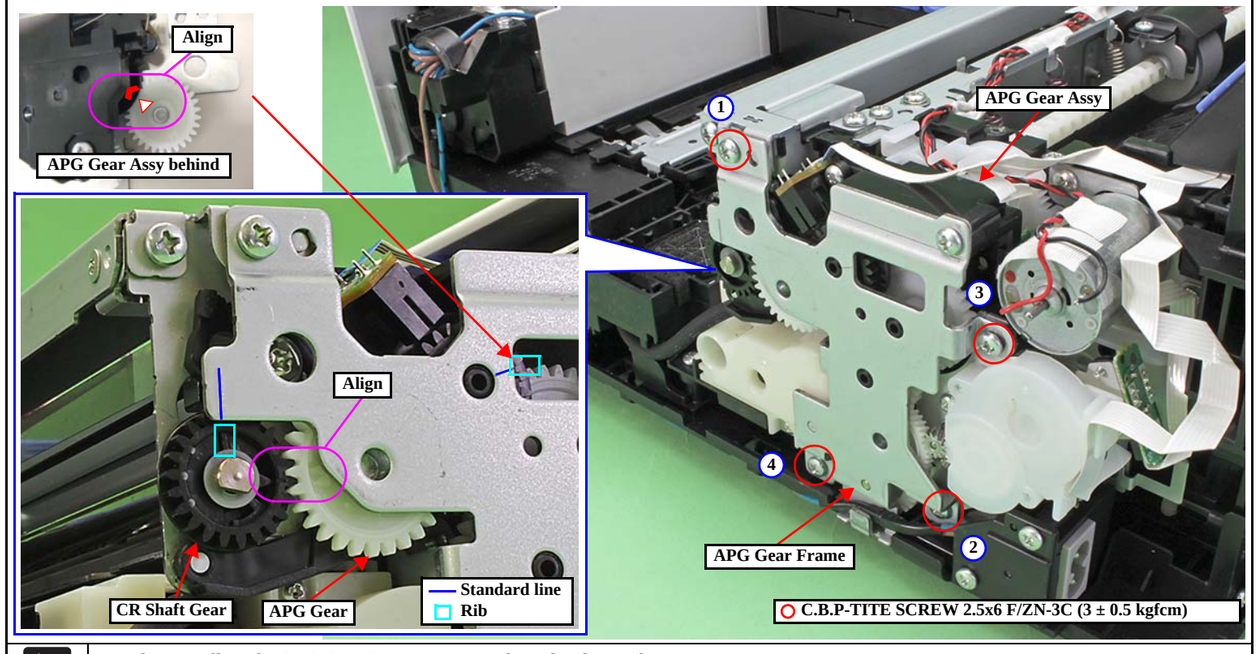
	Remove the screw of the SCN Damper before removing the SCN Unit.

APG Gear Assy (1)



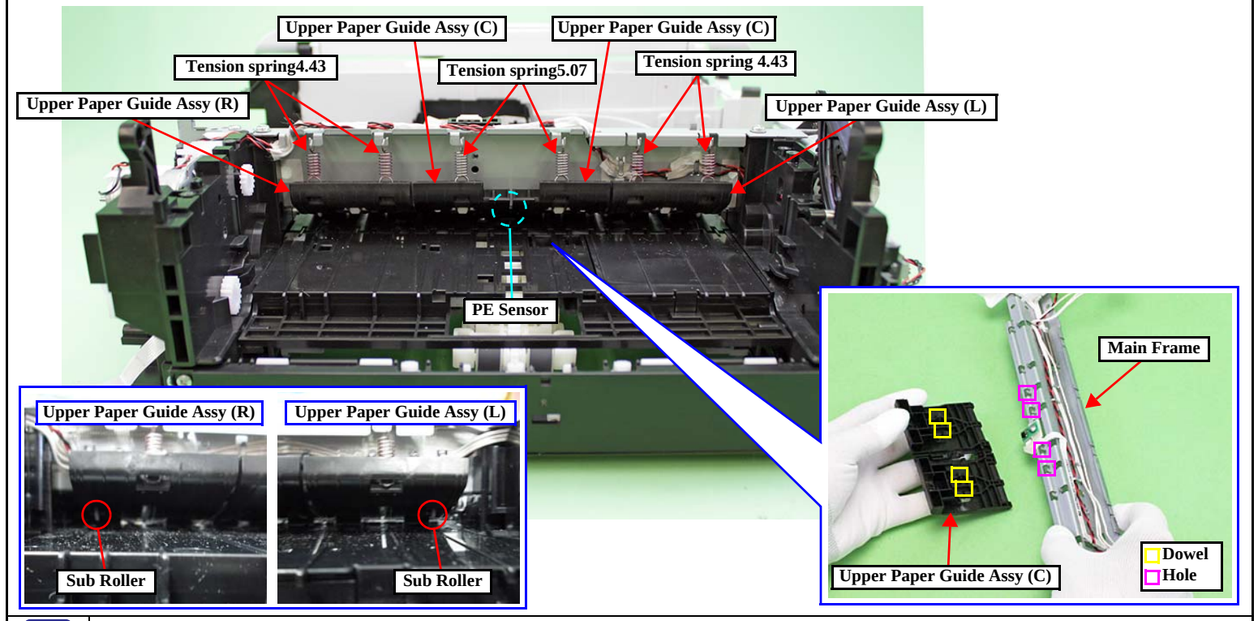
	When installing APG Sensor, fix APG Sensor FFC with double-sided tape (x1) to the position shown above.

APG Gear Assy (2)



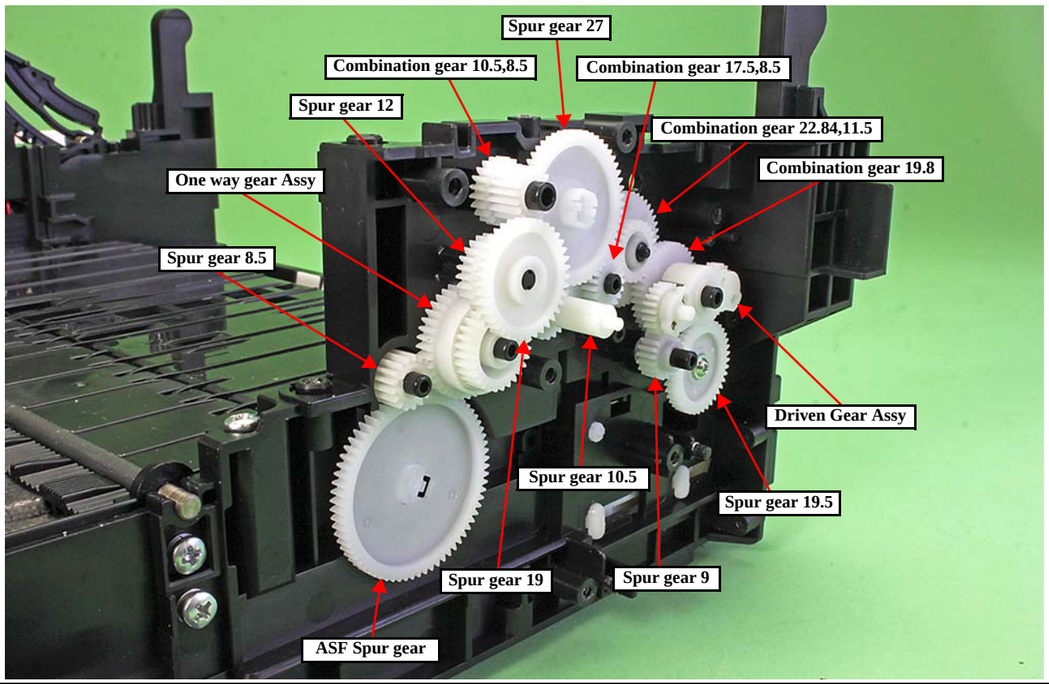
	■ When installing the APG Gear Assy, screw it in the order shown above. ■ If the gears shown above are misaligned, align the triangle on the CR Shaft Gear between the two triangle on the APG Gear Shaft. ■ Install the APG Gear Assy with the rib on the CR Shaft Gear aligned with the standard line on the APG Gear Frame.

Upper Paper Guide



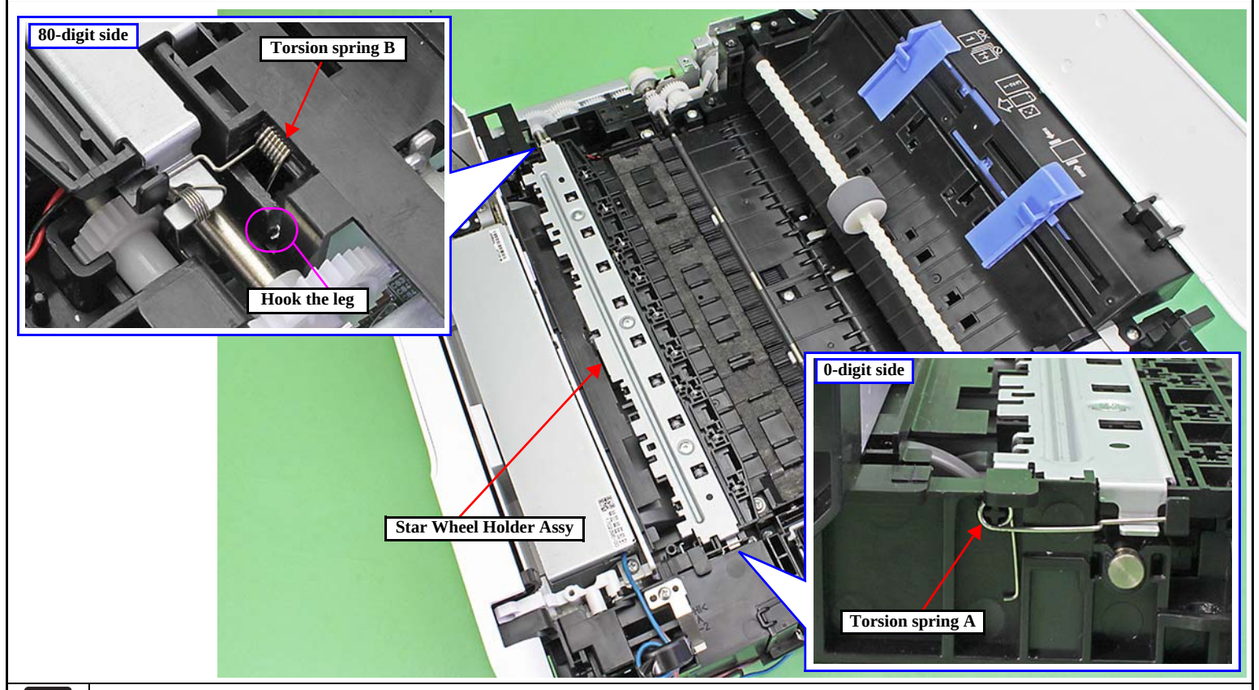
	When removing the Upper Paper Guide (C), be careful not to touch the PE Sensor.
	■ Install the Upper Paper Guide (R)/(L) with the Sub Roller at the outside. ■ Attach the tension springs correctly as shown above because the spring pressure differs by its color.

Frame Base Right Surface Gears



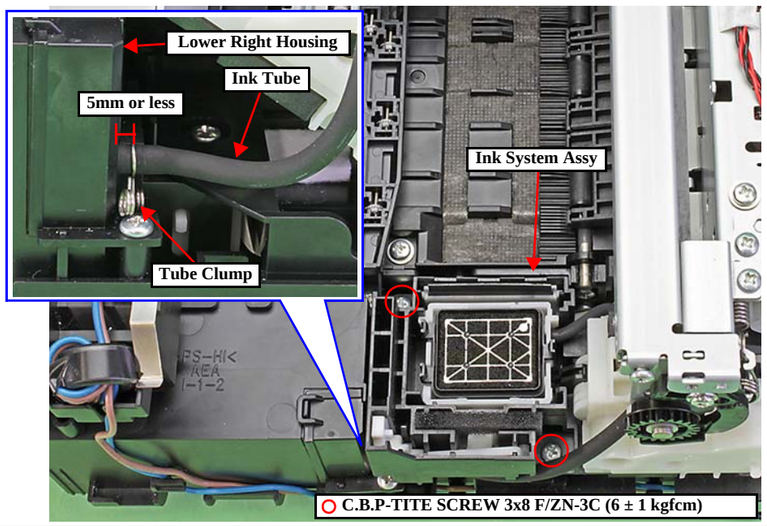
As shown above, install the spur gear 8.5/12/27/19.5/9/10.5/19, the one way gear Assy, the combination gear 10.5,8.5/17.5, 8.5/22.84, 11.5/19.8, the driven gear Assy, and the ASF spur gear.

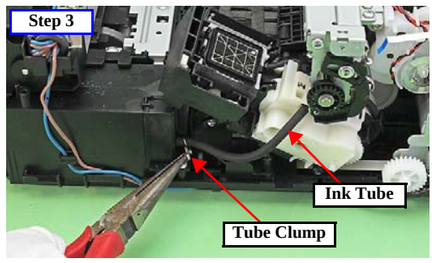
Star Wheel Holder Assy

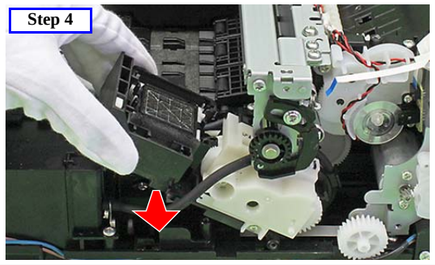


After installing the Star Wheel Holder Assy, install the torsion spring A/B as shown above.

Ink System Assy





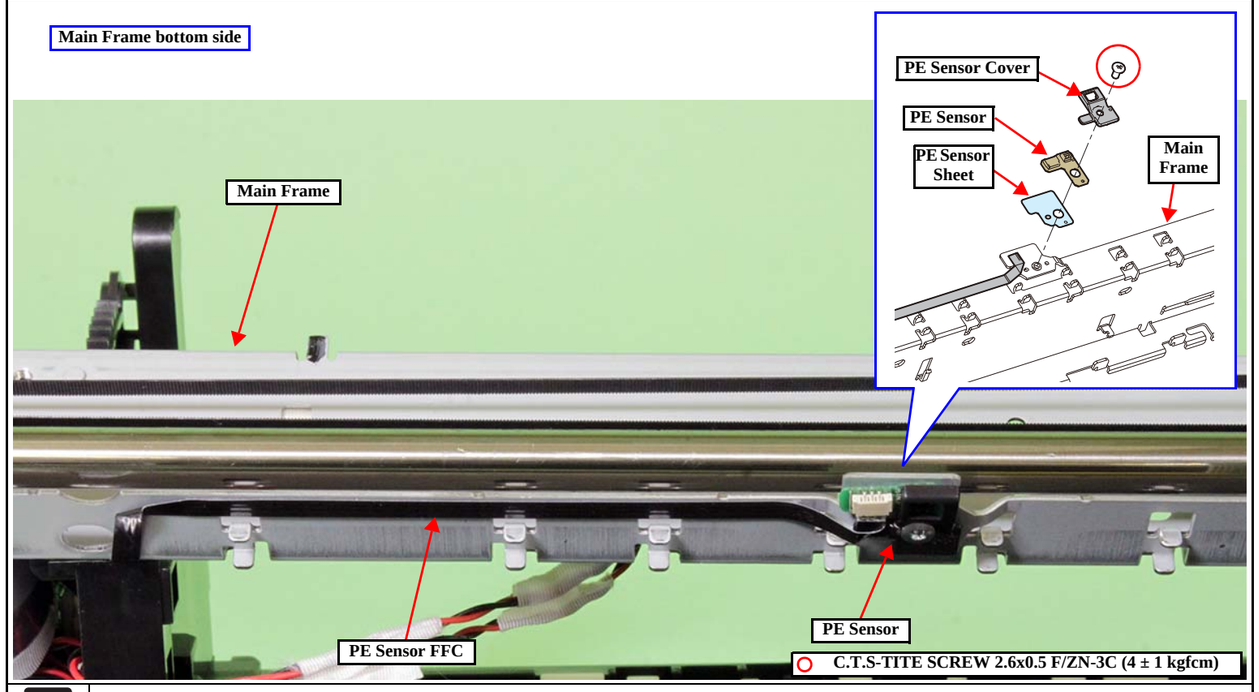


Remove the Ink System Assy as follows.

1. Remove the two screws that secure the Ink System Assy.
2. Slightly lift the Ink System Assy by the cap section.
3. Disconnect the Ink Tube from the joint on the Waste Ink Tray by loosening the tube cramp with long nose pliers.
4. Lift the Ink System Assy by the cap section and pull it out toward you.

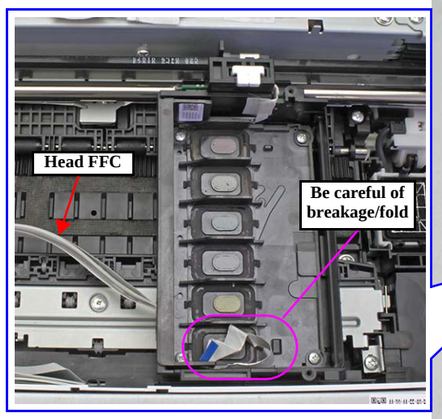
- Put the tube cramp on the Ink Tube if detached before installing the Ink System Assy.
- Attach the tube cramp within 5 mm from the Lower Right Housing.

PE Sensor Unit



Attach the PE Sensor Sheet, the PE Sensor, and the PE Sensor Cover in that order.

CSIC Assy



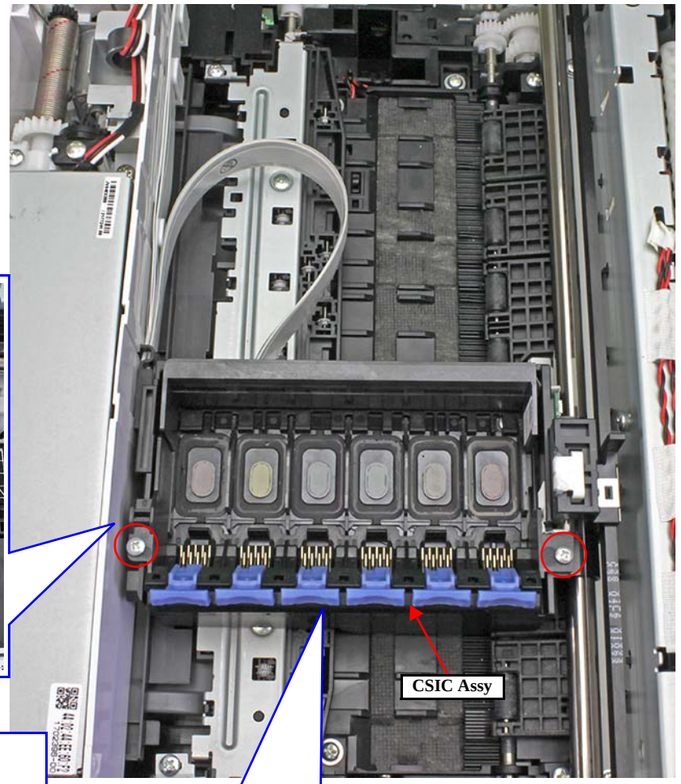
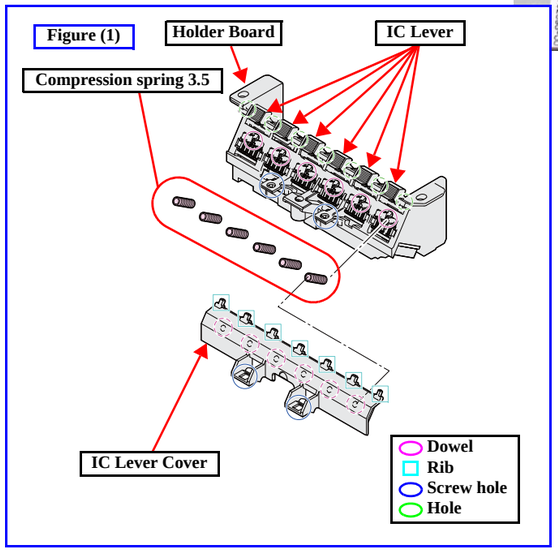


Figure (1)

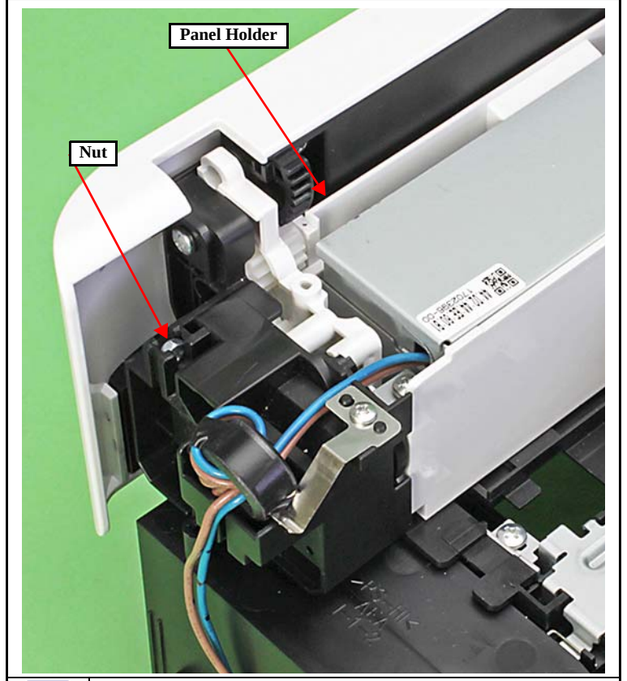


C.B.P-TITE SCREW 2.5x6 F/ZN-3C (3 ± 0.5 kgfcm)

When disassembling/reassembling the CSIC Assy, be careful not to damage or fold the Head FFC while working in a narrow space.

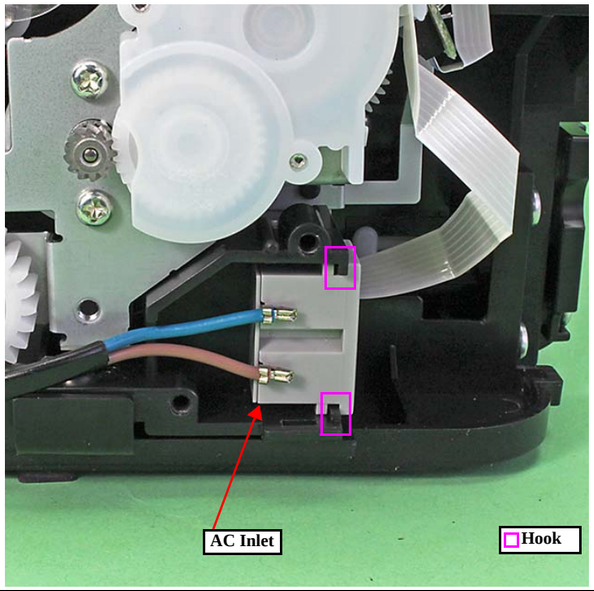
- If any parts are detached when removing the CSIC Assy, reassemble them referring to Figure (1) and the points below.
  - Set the ends of compression springs with the dowels on the IC Lever and IC Lever Cover.
  - Align the screws holes on the IC Lever Cover and the Holder Board.
  - Insert the ribs on the IC Lever Cover into the holes on the Holder Board.
  - After installing the CSIC Assy, confirm the IC Lever moves normally by the restitution of the compressed spring 3.5.
- Install the CSIC Assy while supporting the IC Lever Cover not to let it detached.

Front Right Housing Assy



Be careful not to lose the nut for fastening a screw in the Panel Holder.

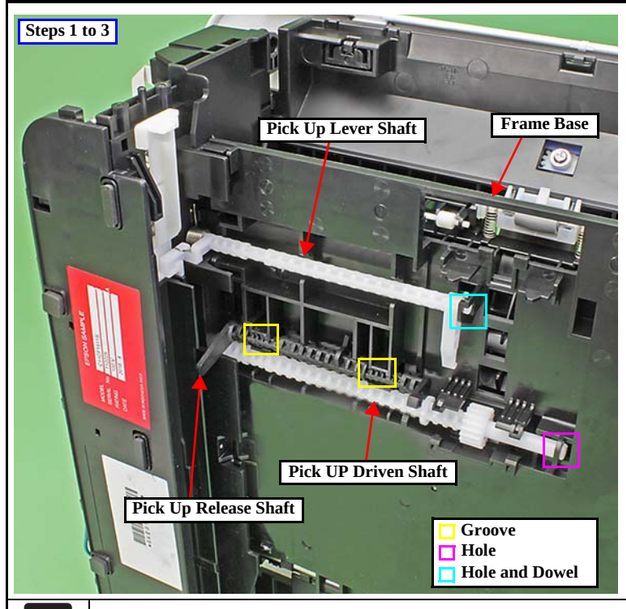
AC Inlet (PS Unit)

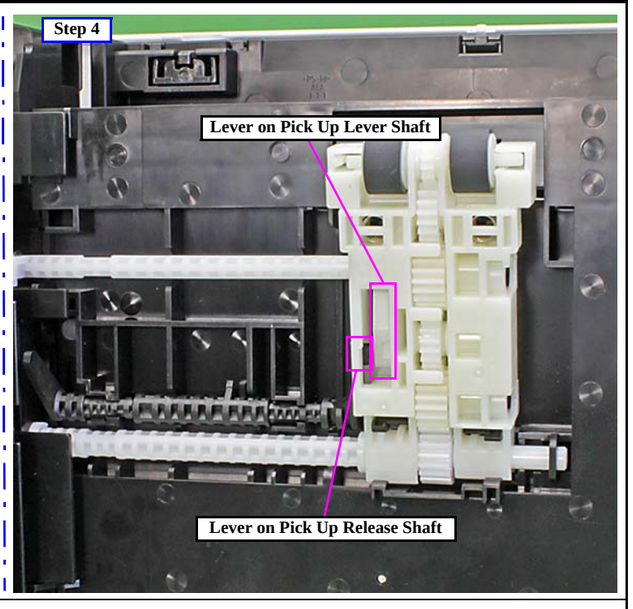


Do not supply power using the AC Cable without the AC Inlet Cover or you may get an electrical shock.

Engage the AC Inlet with the two hooks as shown above. Otherwise, AC Inlet Cover cannot be attached.

Pick Up Assy

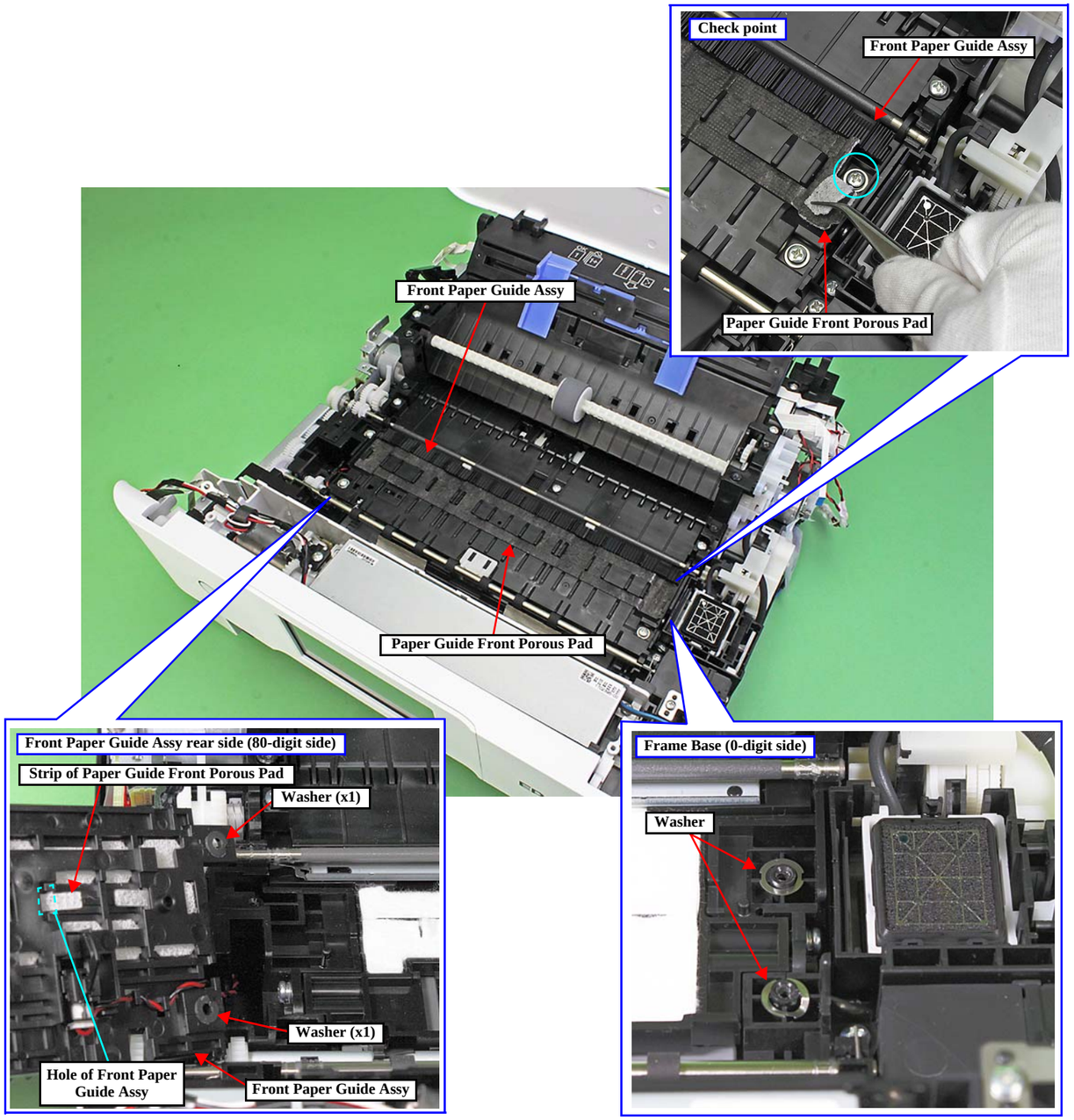




Install the Pick Up Assy as follows.

1. When installing the Pick Up Release Shaft, engage the shaft with the two grooves on the Frame Base.
2. Set the Pick Up Driven Shaft into the hole on the Frame Base.
3. Install the Pick Up Lever Shaft while engaging its dowel with the hole on the Frame Base.
4. Install the Pick Up Assy while attaching the levers on the Pick Up Release Shaft and Pick Up Lever Shaft in place.

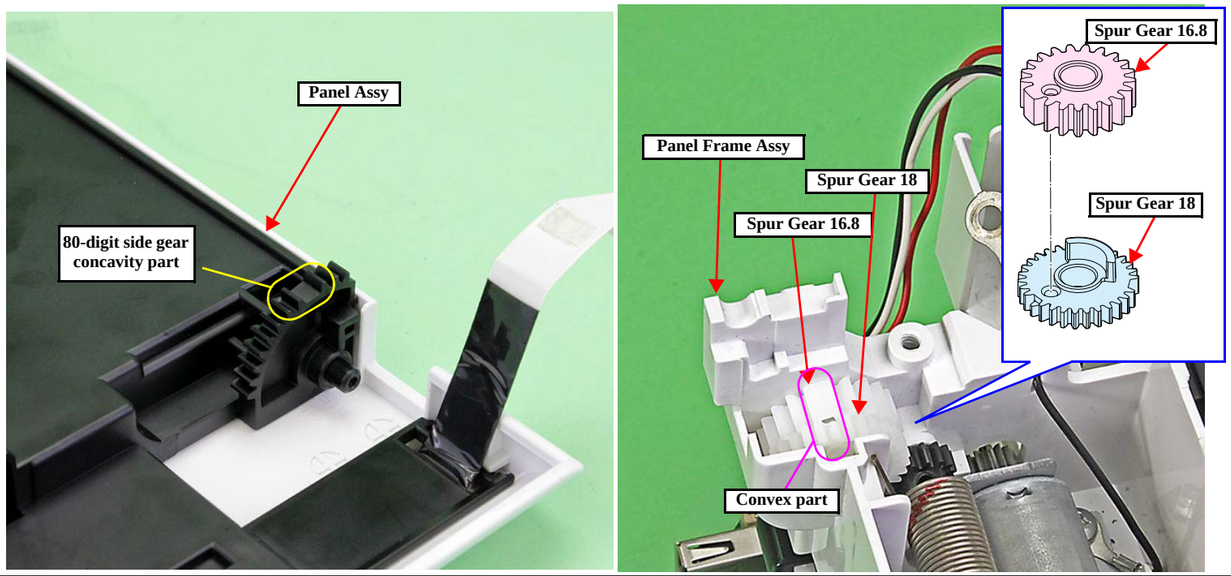
Front Paper Guide Assy


Check point
Front Paper Guide Assy
Paper Guide Front Porous Pad
Front Paper Guide Assy
Paper Guide Front Porous Pad
Front Paper Guide Assy rear side (80-digit side)
Strip of Paper Guide Front Porous Pad
Washer (x1)
Washer (x1)
Hole of Front Paper Guide Assy
Front Paper Guide Assy
Frame Base (0-digit side)
Washer

One of the screws that secure the Front Paper Guide Assy is under the Paper Guide Front Porous Pad. When removing the assy, peel the pad and remove the screw as shown above.

- Before installing the Front Paper Guide Assy, refer to the figure above and the following.
  - Confirm one each washer is pasted on the two screw holes on the 80-digit side rear surface of Front Paper Guide Assy.
  - Confirm one each washer is pasted on the two bosses on the 0-digit side of Front Paper Guide Assy.
- After installing the Front Paper Guide Assy, check the following.
  - The Paper Guide Front Porous Pad is not waving.
  - Every strip on the Paper Guide Front Porous Pad is set into the corresponding hole of the Front Paper Guide Assy.
  - Wipe off all Ink attached on the Front Paper Guide Assy.

Panel Assy (XP-8500/XP-8505)

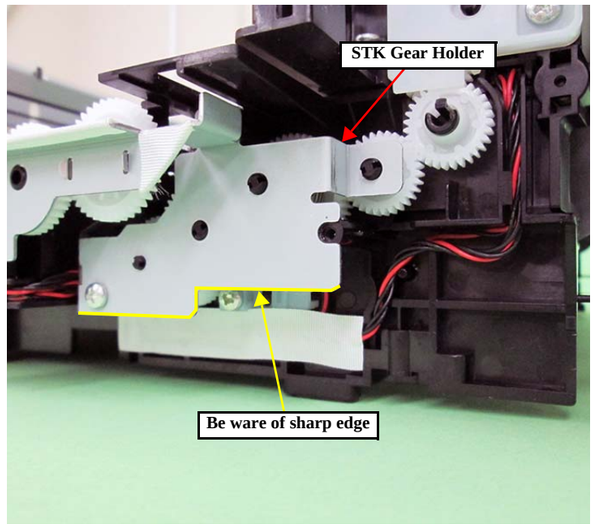


Install the Panel Assy as follows.

1. Align the holes on the spur gear 16.8 and the spur gear 18 and attach them to the Panel Frame Assy with the broad tooth of the spur gear 16.8 on top.
2. Install the Panel Assy while aligning the concave part of the gear on the 80-digit side of the Panel Assy with the broad tooth on the spur gear 16.8.
3. Install the Panel Bush.

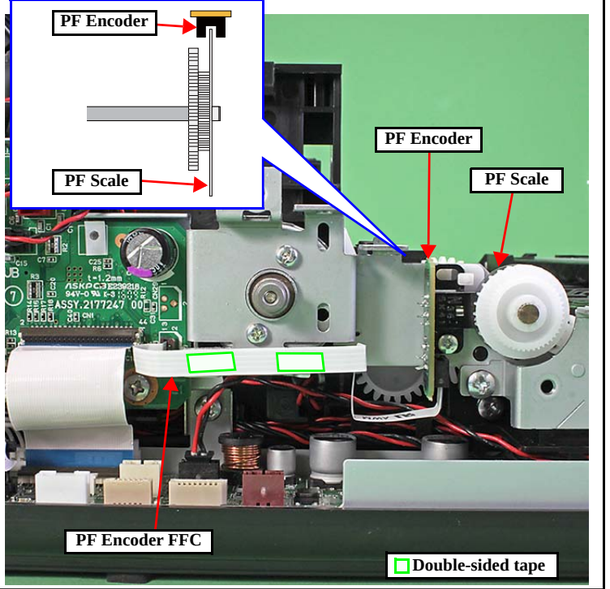
STK Gear Holder

Left



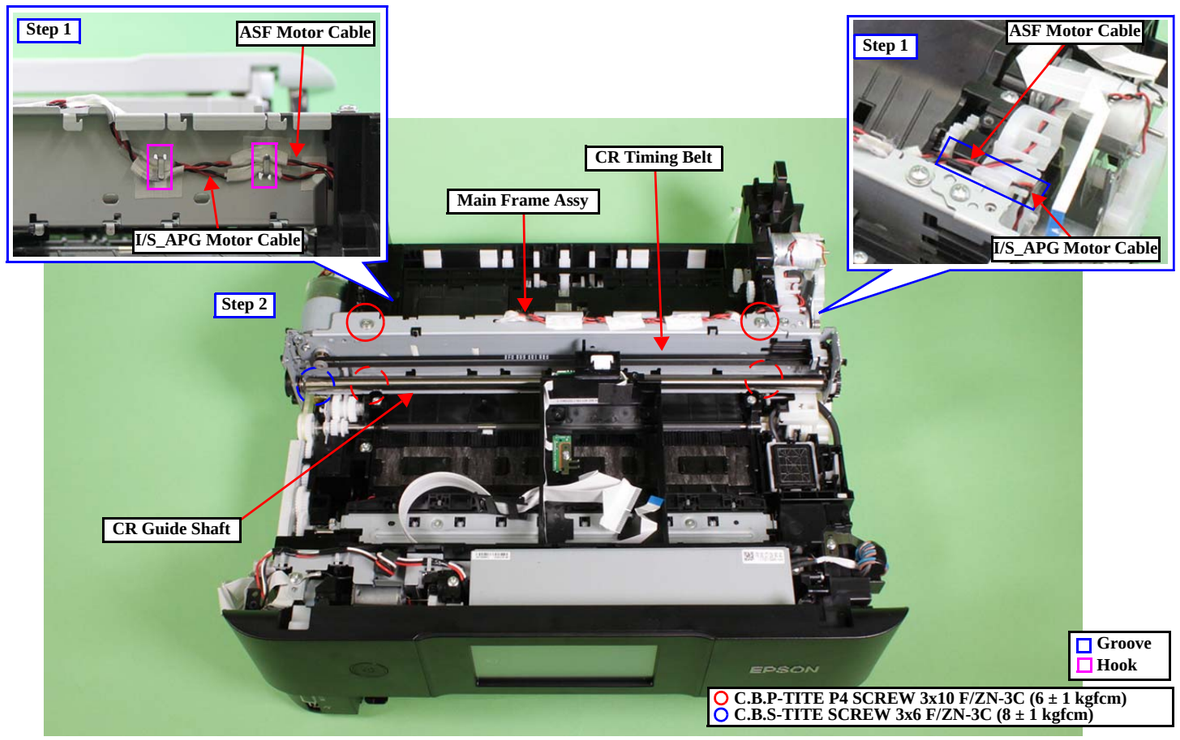
Be careful not to get injured with the sharp edge on the frame shown above.

PF Encoder



- Do not touch the PF Scale while screwing.
- After screwing, confirm the PF Scale is set in the center of the slit on the PF Encoder.
- Fix the PF Encoder FFC with double-sided tape (x2) as shown above.

Main Frame Assy

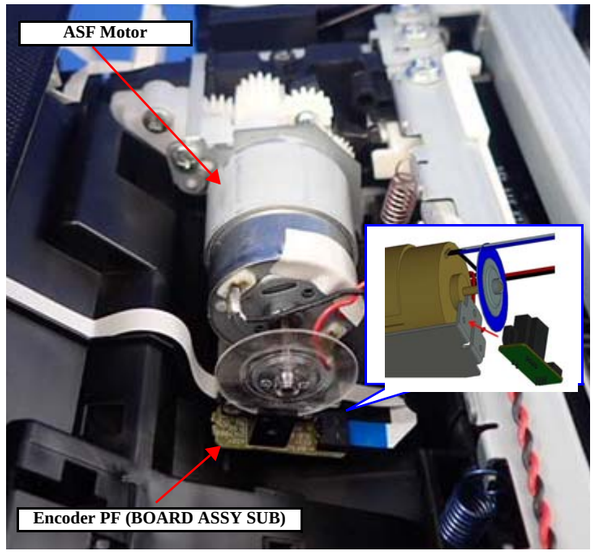


To access the parts under the Main Frame Assy, detach them (not completely) from the Main Frame Assy as follows.

1. Release the ASF Motor and the I/S_APG Motor Cable from the two hooks and the groove on the Main Frame.
2. Taking care not to damage the CR Timing Belt and the CR Guide Shaft, remove the five screws that secure the Main Frame.
3. Taking care not to damage the cables/FFCs routed on the Main Frame Assy, slightly lift the Main Frame Assy and put it on top of the Frame Base as shown above.

To prevent damaging the Slider Lever, attach it through the hole on the Main Frame when installing the Main Frame Assy.

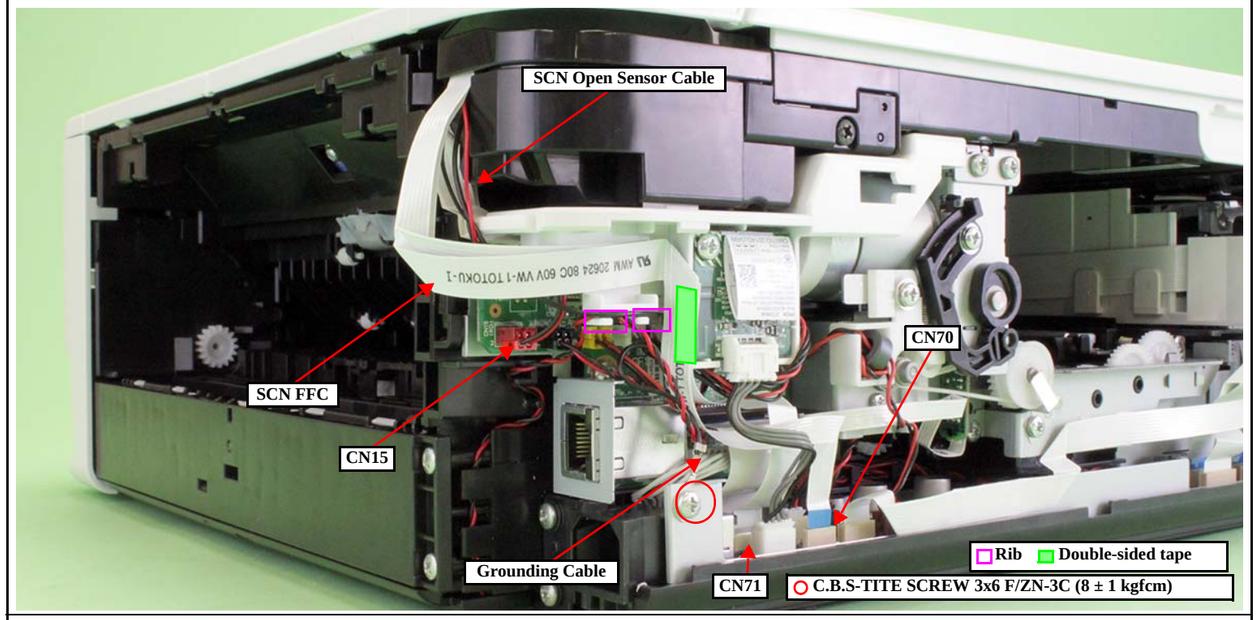
ASF Motor Assy(XP-6000 series)



No damage to pinion, Harness

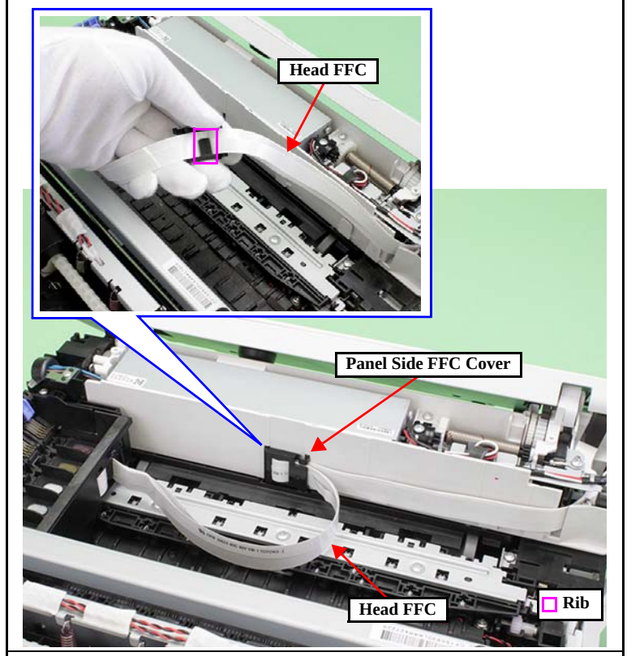
2.7 Routing Cables/FFCs

SCN Unit



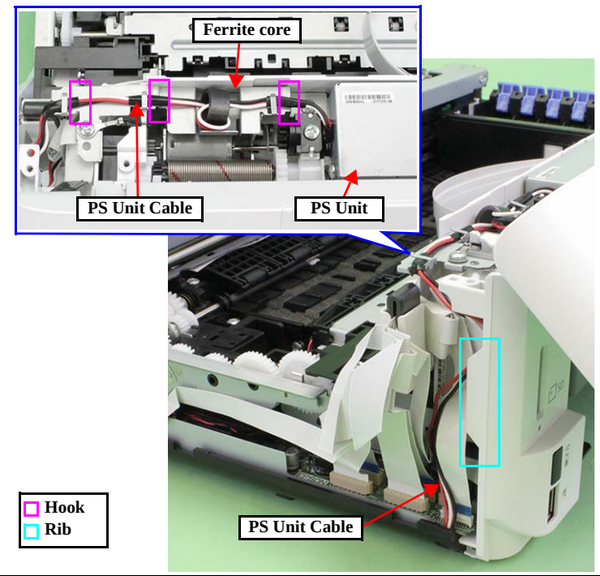
- Secure the SCN FFC on the Rear Housing with double-sided tape as shown above, and connect it to CN 70 and CN71 on the Main Board.
- Connect the SCN Open Sensor Cable to CN15 on the Sub Board.
- Route the grounding cable through the two ribs on the Rear Housing and screw it on the point shown above.

Panel Side FFC Cover



Secure the Head FFC on the rib as shown and route it back to the 80-digit side.

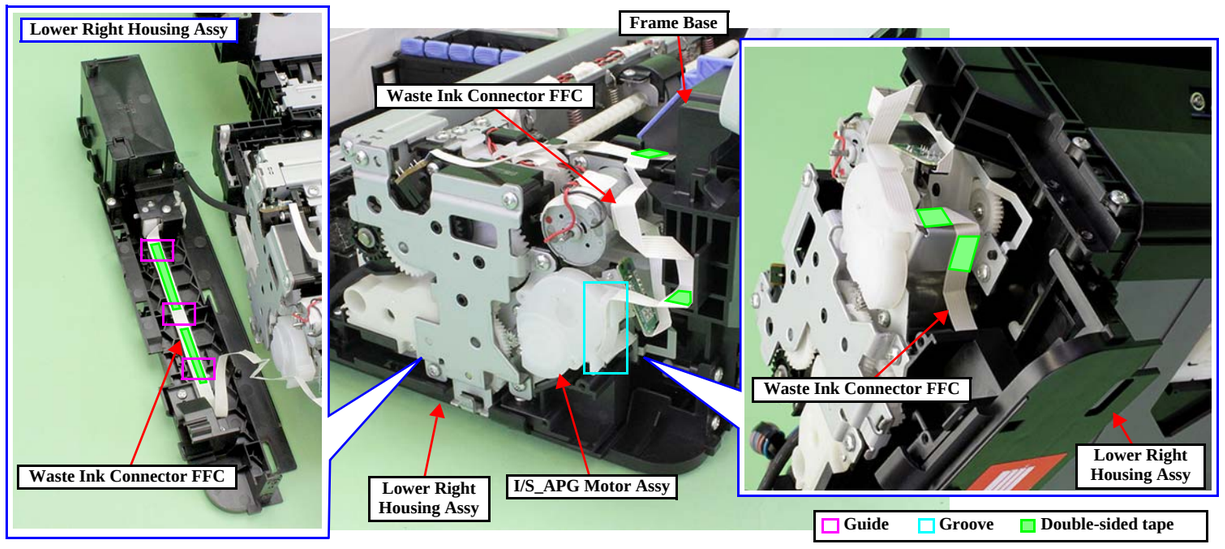
AC Shield Plate



PS Unit Cable

- Route through the three hooks on the AC Shield Plate and set the ferrite core into the space shown above.
- Route inside the rib on the Card Slot Board Assy.

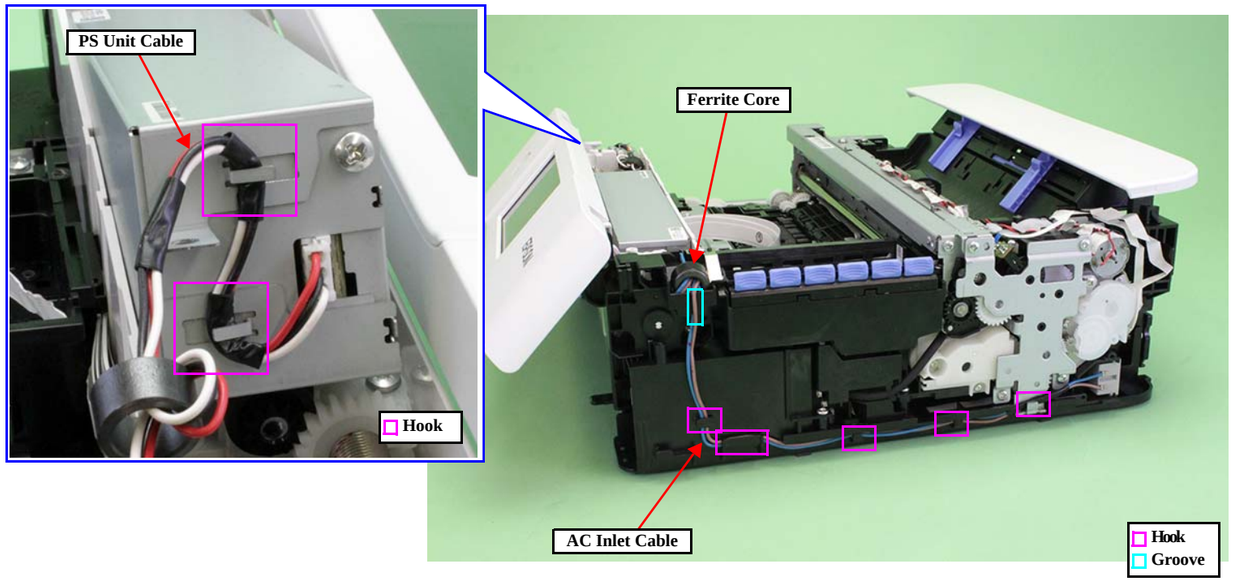
Lower Right Housing Assy



Route the Waste Ink Connector FFC as follows.

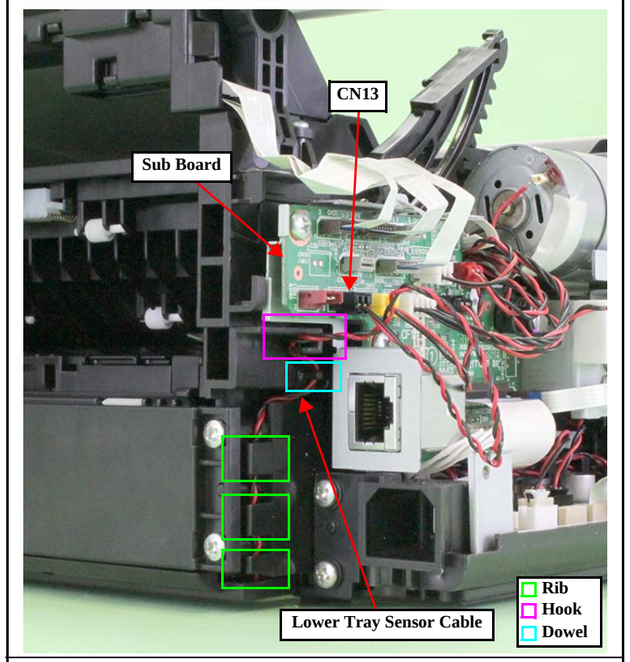
- Route along the three guides on the Lower Right Housing Assy and secure at the two points shown above with double-sided tape.
- Route through the groove on the I/S_APG Motor Assy, and secure at the two points shown above with double-sided tape.
- Secure at the two points shown above on the Frame Base with double-sided tape.

PS Unit



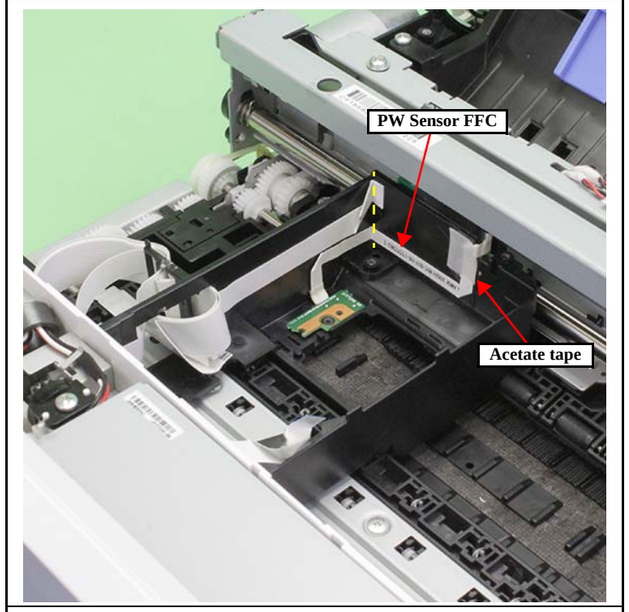
- AC Inlet Cable
  - Route through the five hooks on the side of the printer.
  - Set the ferrite core into the space shown above on the Panel Holder, and pull the cable out from the groove.
- PS Unit Cable
  Route through the two hooks on the side of the PS Unit.

ASF Bank Assy



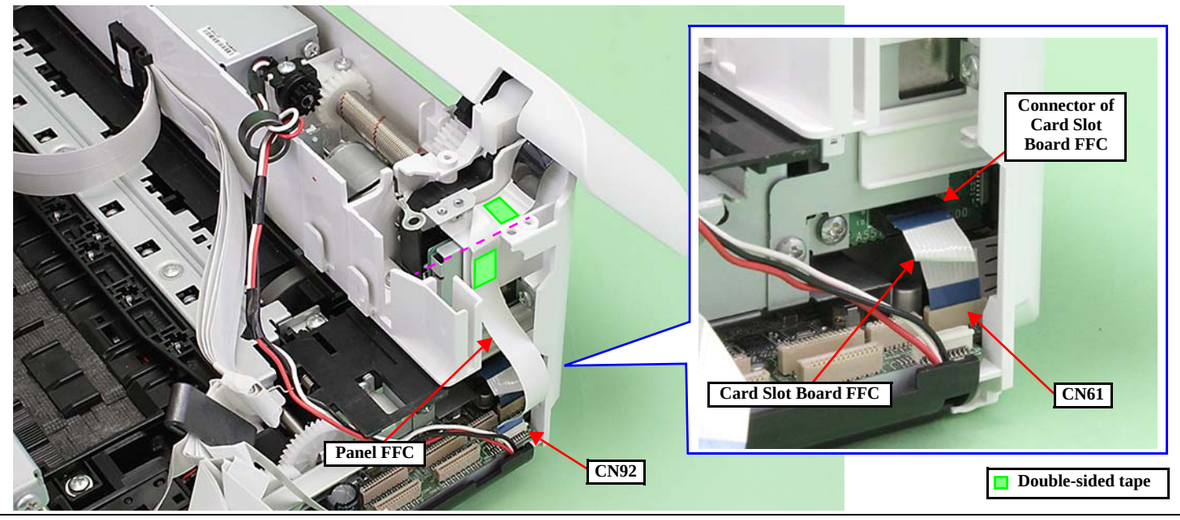
Route the Lower Tray Sensor Cable through the three ribs on the Printer Mechanism, and secure it with the dowel and hook, then connect it to CN13 on the Sub Board.

PW Sensor



- Route the PW Sensor FFC while aligning it with the corner of the CR Unit and secure it at two points shown above with double-sided tape.
- When routing around the inside of the CR Unit, the PW Sensor FFC is easily damaged while disassembling/reassembling the Printhead, etc. Protect and reinforce the FFC with acetate tape after routing.

Card Slot Board Assy

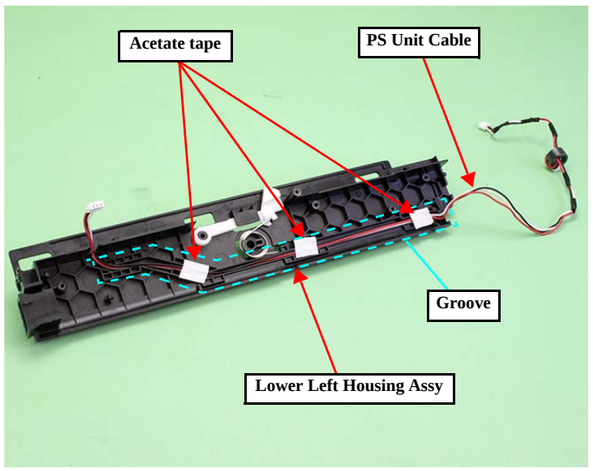


Note: The Head FFC is released in the figure to make the routing more understandable.

- Panel FFC
  - Route while aligning its fold with the corner of the Card Slot Board Assy.
  - Secure at the two point shown above on the Card Slot Board Assy and connect to CN92 on the Main Board.
- Card Slot Board FFC

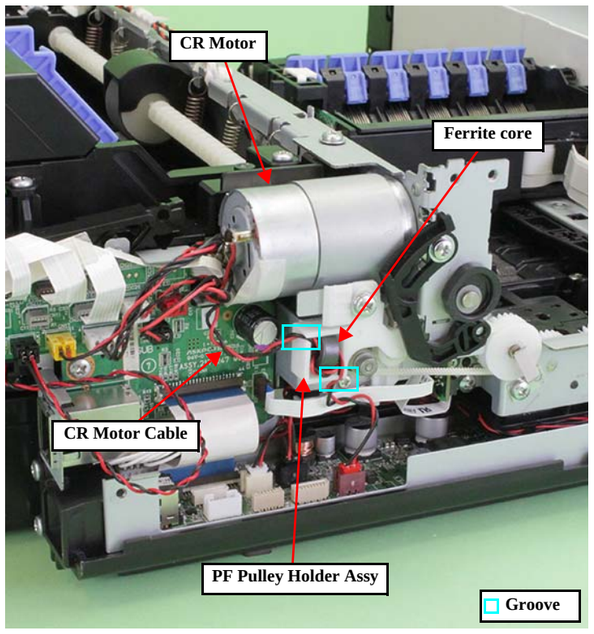
When connecting to the connector on the Main Board after installing the Card Slot Board Assy, a slant connection or broken contact of the FFC may result because the space for routing is very narrow.
Therefore, make sure to connect to the Main Board first, and then connect to the Card Slot Board Assy.

Lower Left Housing Assy



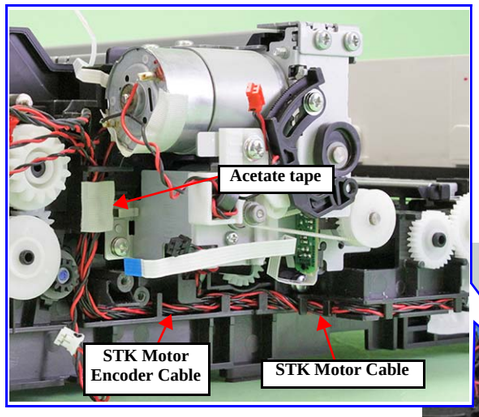
Route the PS Unit Cable along the groove on the Lower Left Housing Assy, and secure at the three points shown above with double-sided tape.

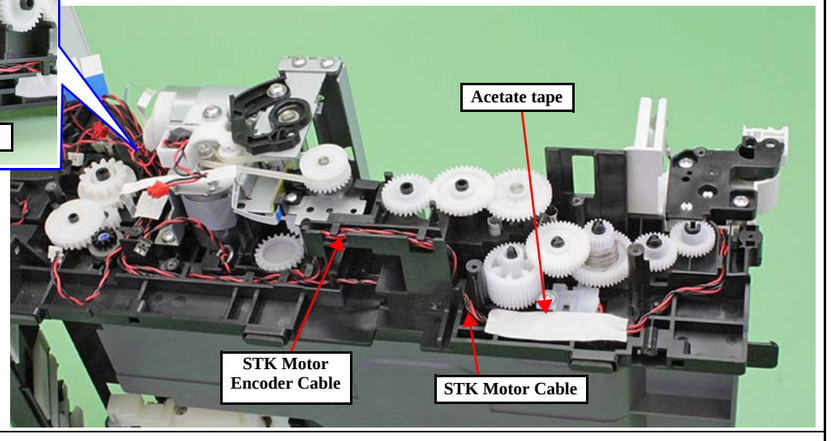
CR Motor



Set the ferrite core into the space shown above, and route the CR Motor Cable through the two grooves on the PF Pulley Holder Assy and connect it to CN901 on the Main Board.

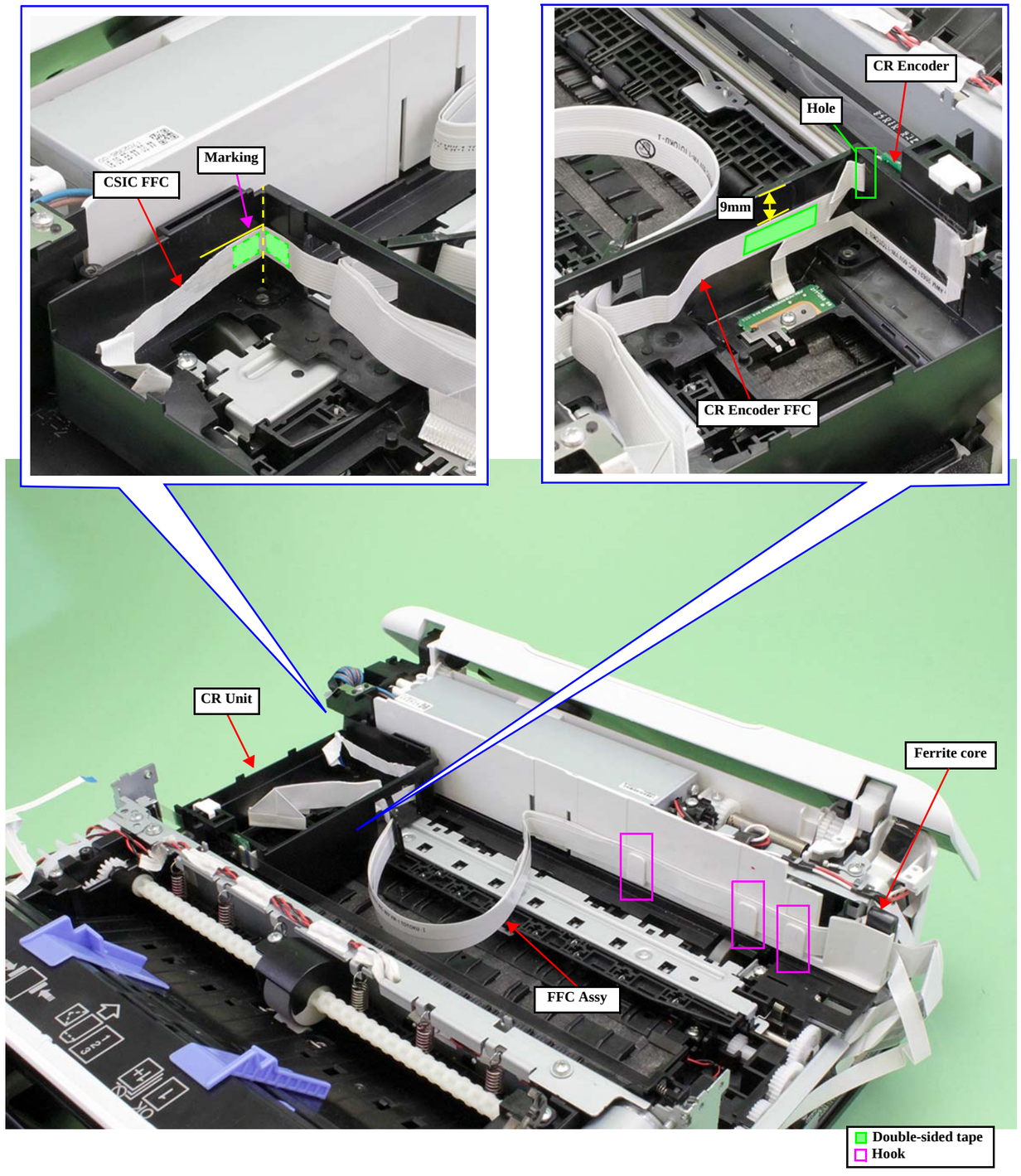
Panel Frame Assy





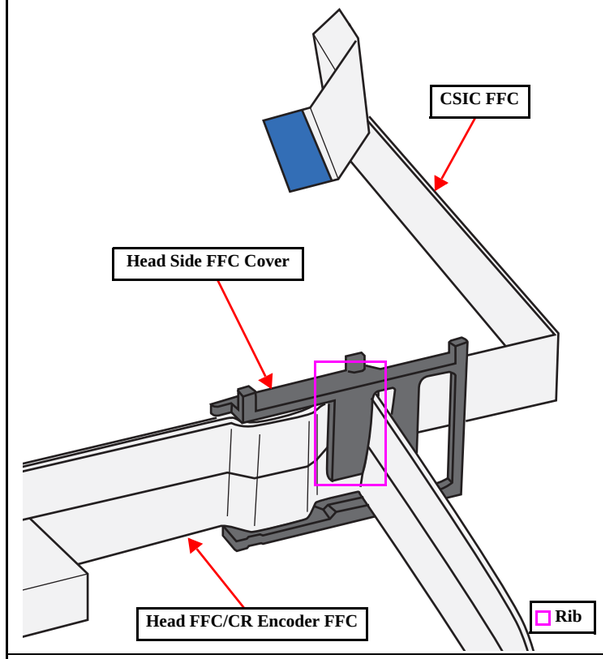
Route the STK Motor Encoder Cable and STK Motor Cable through the side of the Printer Mechanism as shown above, and secure the cables at the two points shown above with acetate tape.

FFC Assy



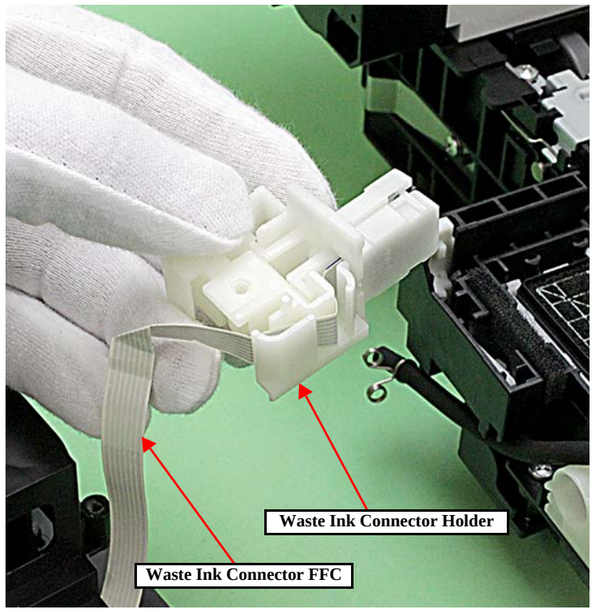
- Set the ferrite core into the space shown above and route the FFC through the three hooks on the Panel Holder.
- Align the folds of CSIC FFC with the corner of the CR Unit and marking and secure the FFC at the two points shown above with double-sided tape.
- Route the CR Encoder FFC through the hole on the CR Unit and connect it to the connector on the CR Encoder. And then align the folds of the FFC with the corner of the CR Unit and secure it 9 mm away from the top edge of the CR Unit with double-sided tape.

Head Side FFC Cover



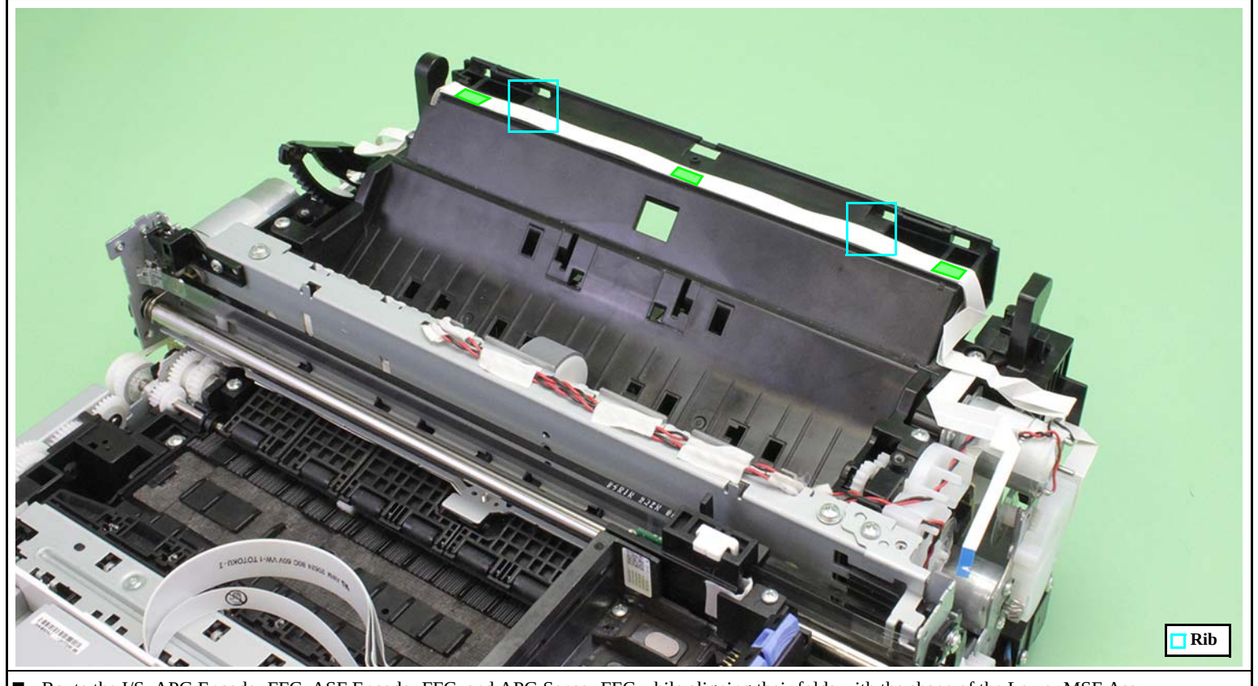
Route the CSIC FFC through the hole on the center and route the Head FFC and CR Encoder FFC through the rib as shown above.

Waste Ink Connector Holder



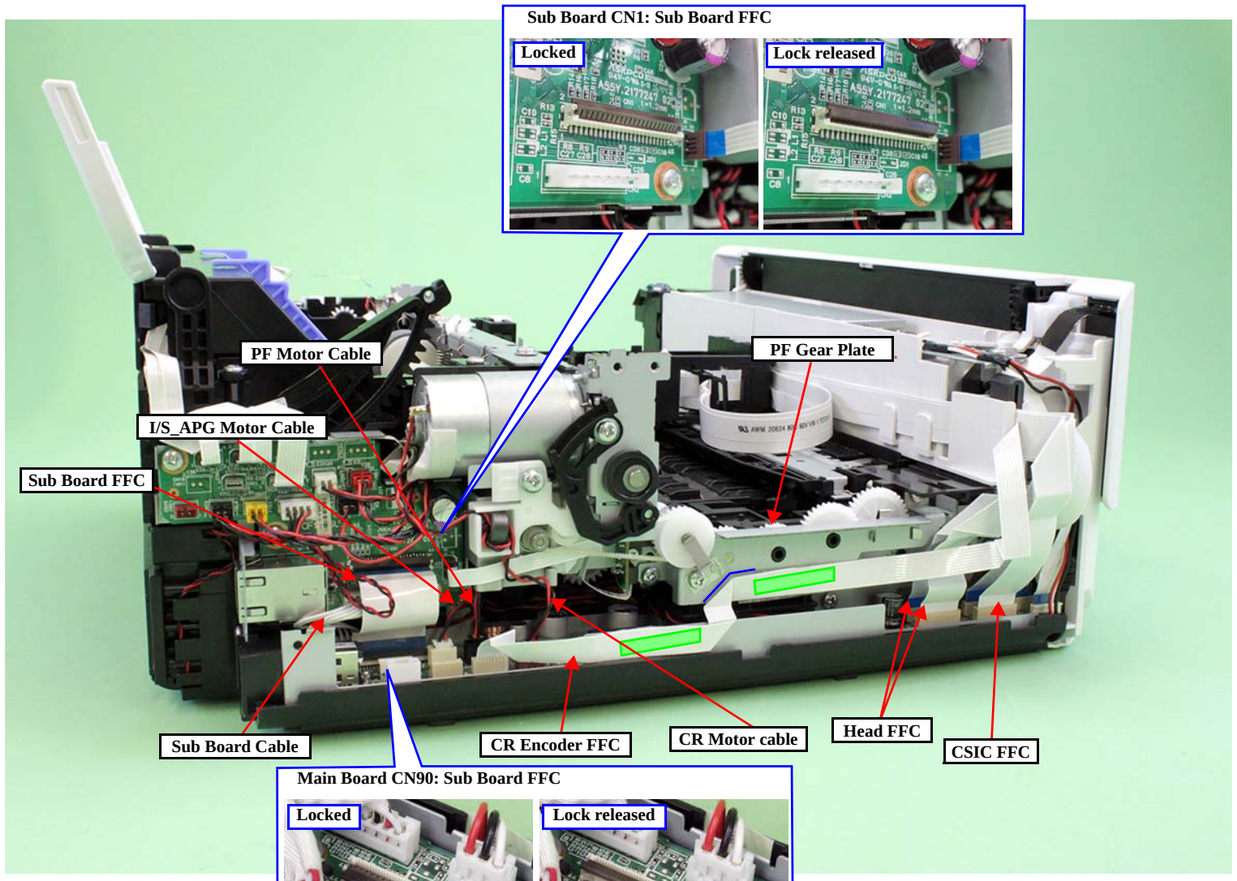
Route the Waste Ink Connector FFC along the shape of the ribs on the Waste Ink Connector Holder.

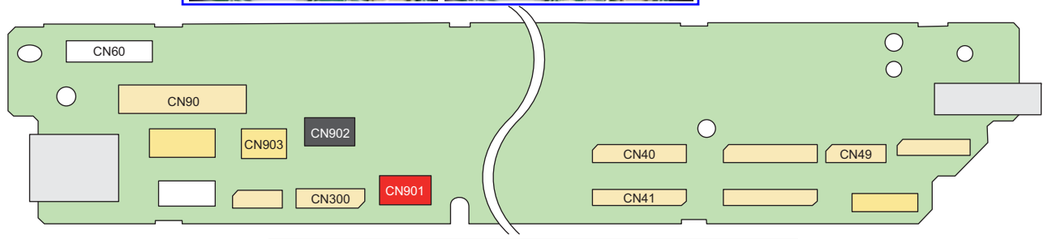
Lower MSF Assy



- Route the I/S_APG Encoder FFC, ASF Encoder FFC, and APG Sensor FFC while aligning their folds with the shape of the Lower MSF Assy.
- Route the FFCs through the two ribs and secure them at the three points with double-sided tape.

Main Board Assy



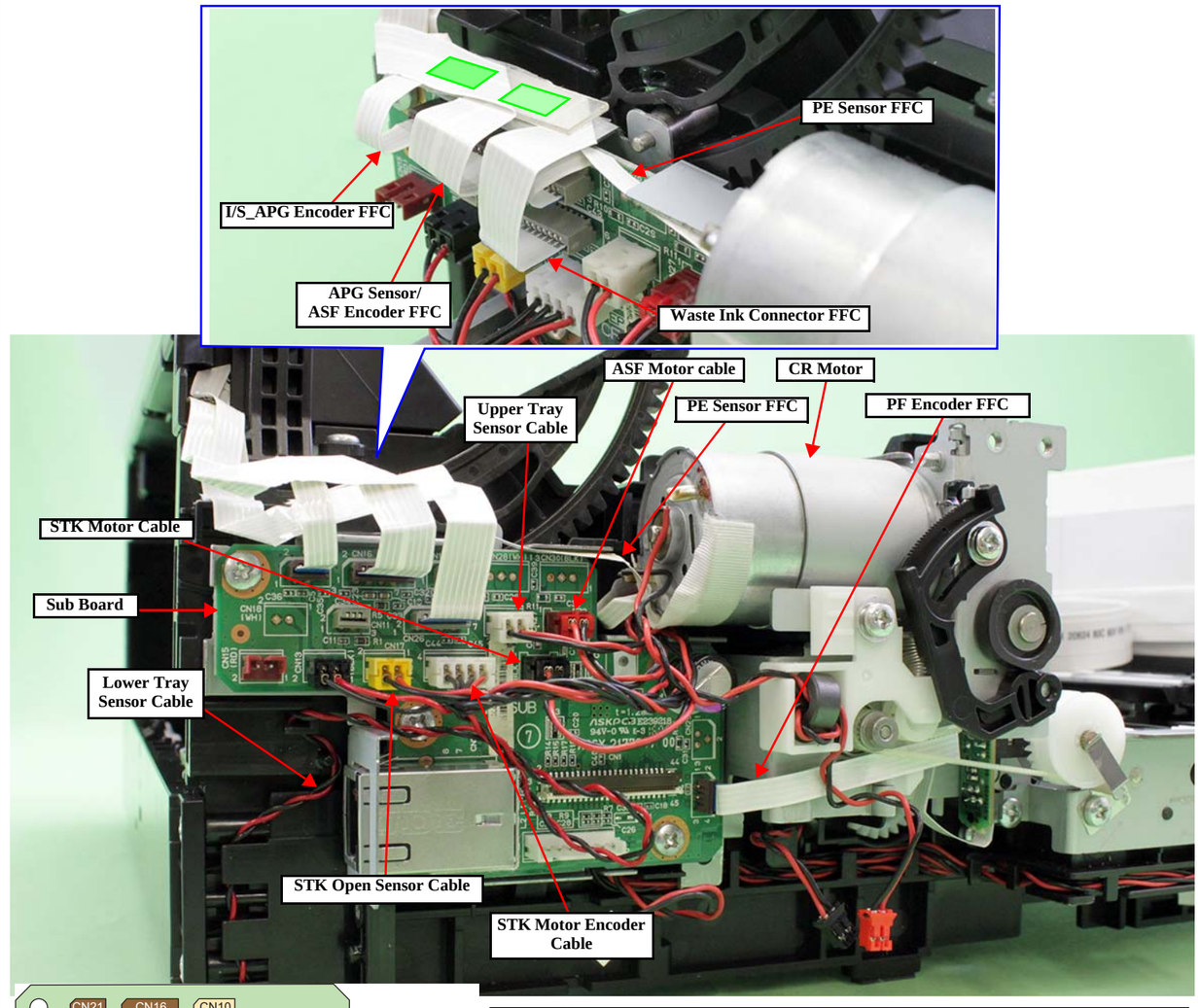


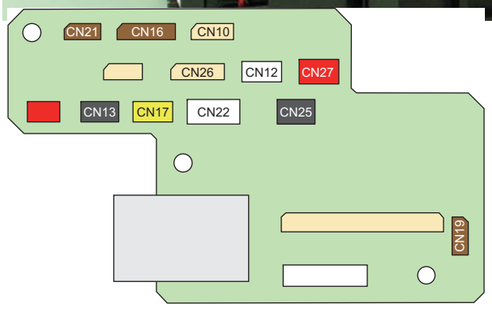
No.	Name	No.	Name
CN60	Sub Board Cable	CN901	CR Motor Cable
CN90	Sub Board FFC	CN40	Head FFC
CN903	I/S_APG Motor Cable	CN41	Head FFC
CN902	PF Motor Cable	CN49	CSIC FFC
CN300	CR Encoder FFC		

Marking
Double-sided tape

- Connect the CR Encoder FFC to CN300 on the Main Board, and then align its fold with the marking and secure the FFC at the two points shown above with double-sided tape.
- The connectors for Sub Board FFC; CN90 on the Main Board and CN1 on the Sub Board, have connector locks. When connecting the FFC to these connectors, connect the FFC with the locks released and secure the FFC by locking the connectors fully.

Sub Board





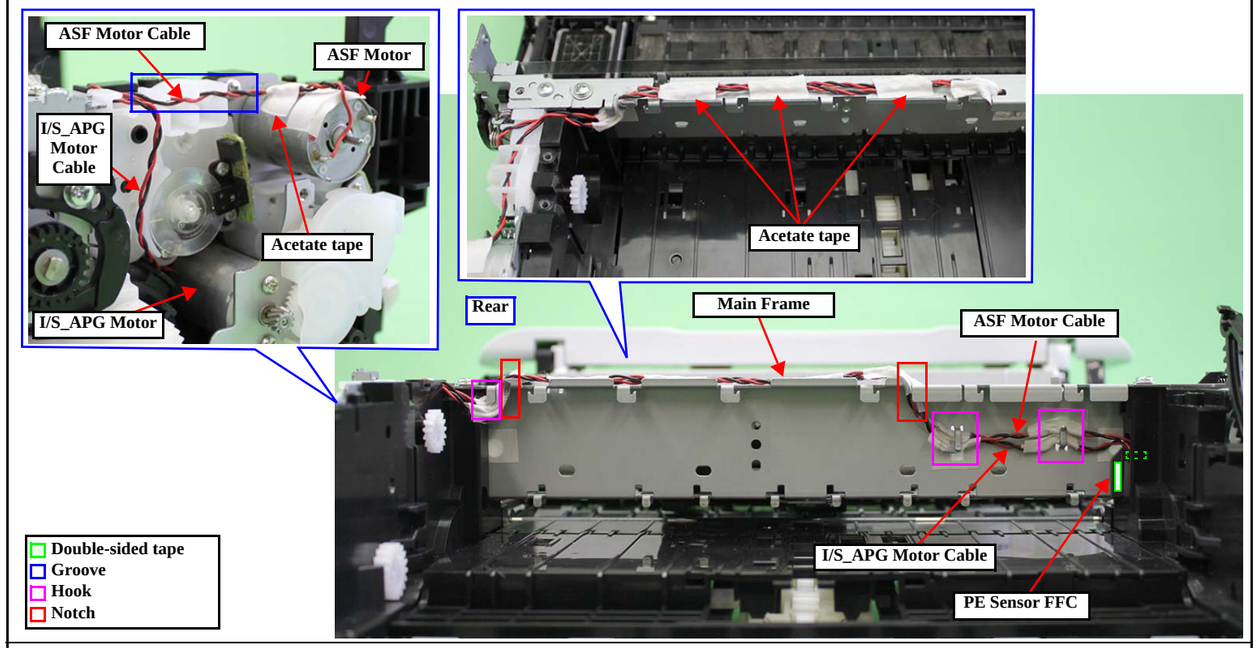
No.	Name	No.	Name
CN21	I/S_APG Encoder FFC	CN13	Lower Tray Sensor Cable
CN16	APG Sensor/ ASF Encoder FFC	CN17	STK Open Sensor cable
CN10	PE Sensor FFC	CN22	STK Motor Encoder Cable
CN26	Waste Ink Connector FFC	CN25	STK Motor Cable
CN12	Upper Tray Sensor Cable	CN19	PF Encoder FFC
CN27	ASF Motor Cable		

C22,C25:Except for XP-6000 Ssereis

Double-sided tape

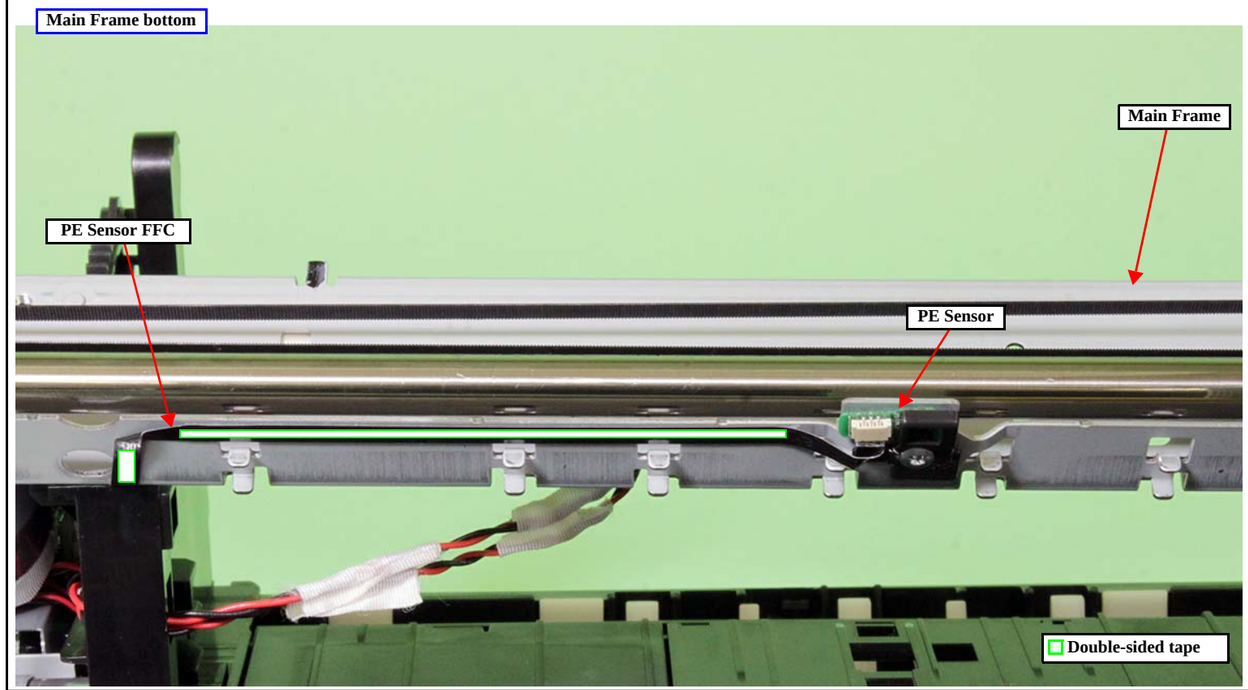
- Secure the I/S_APG Encoder FFC, APG Sensor/ASF Encoder FFC, and Waste Ink Connector FFC and PE Sensor FFC as follows.
  1. Secure the PE Sensor FFC to the Sub Board Shield Plate with double-sided tape and connect it to CN10 on the Sub Board.
  2. Secure the Waste Ink Connector FFC to the Sub Board Shield Plate with double-sided tape and connect it to CN26 on the Sub Board.
  3. Secure the FFC Spacer to the Waste Ink Connector FFC with double-sided tape.
  4. Lay the APG Sensor/ASF Encoder FFC over the I/S_APG Encoder FFC and secure the APG Sensor/ASF Encoder FFC to the FFC Spacer with double-sided tape.
- Connect the APG Sensor/ASF Encoder FFC and I/S_APG Encoder FFC to CN16 and CN21 on the Sub Board.

ASF Motor/I/S_APG Motor/PE Sensor FFC



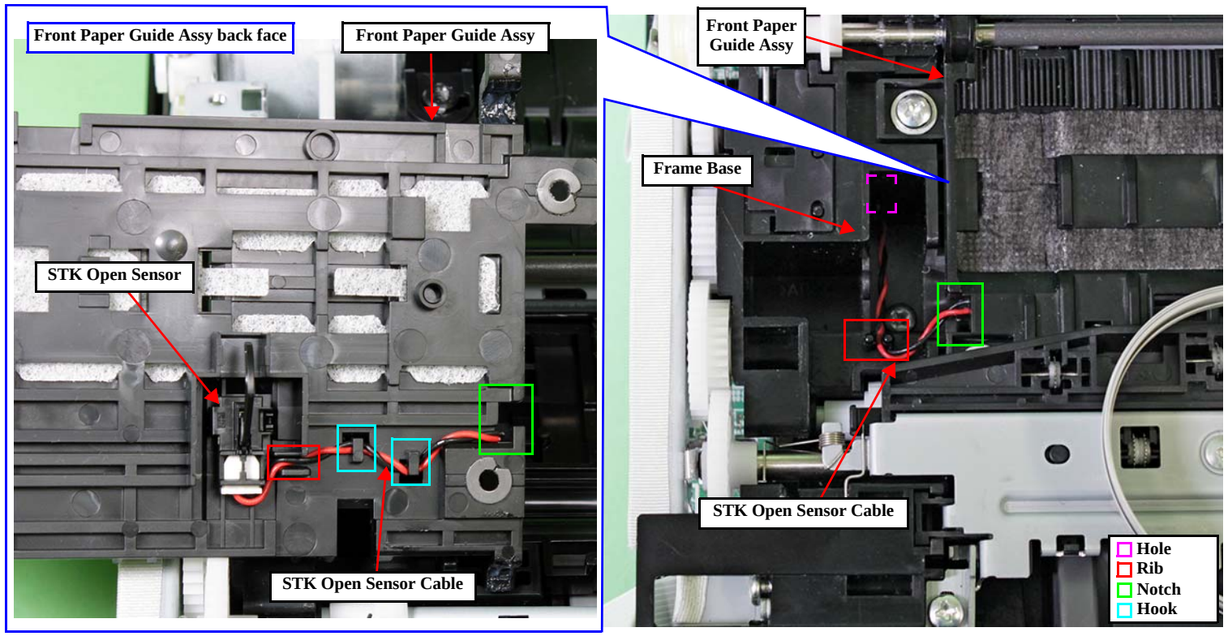
- Route the ASF Motor Cable and I/S_APG Motor Cable through the three hooks, two cutouts, and the groove, and then secure them at four points with acetate tape as shown above.
- When routing the cables through the hooks and cutouts, align the portions protected with acetate tape with the edges of the hooks and cutouts of the Main Frame.
- When routing the PE Sensor FFC on the rear of the Main Frame, secure it at the two points with double-sided tape.

PE Sensor FFC (Main Frame bottom)



Route the PE Sensor FFC on the bottom of the Main Frame as shown above.

Front Paper Guide Assy (STK Open Sensor)



Route the STK Open Sensor Cable through the ribs and hooks on the back face of the Front Paper Guide Assy as shown above and pull it out from the cutout. Then, route it through the rib on the Frame Base and then insert it into the hole on the Frame Base.

CHAPTER **3**

ADJUSTMENT

3.1 Required Adjustments

The table from the following page lists the required adjustments depending upon the parts being repaired or replaced. Find the part(s) you removed or replaced, and check which adjustment(s) must be carried out.

- **If the EEPROM data cannot be read out from the old Main Board using the Adjustment Program when replacing the Main Board is required, the Waste Ink Tray Assy must be replaced with the Main Board at the same time.**
- **After all required adjustments are complete, use the "Final check pattern print" function to print all adjustment patterns for final check. If you find a problem with the printout patterns, carry out the adjustment again.**
- **When replacing the Main Board and the Printer Mechanism at the same time, the adjustment should be made after performing the initial setting.**

- **The table items and marks used in the "Required Adjustment List" provided on the following pages have the following meanings.**
  - **"O" indicates that the adjustment must be carried out.**
  - **"---" indicates that the adjustment is not required.**
  - **The "Mechanism Adjustment" should be performed just after reinstalling or reassembling the part or Unit.**
  - **The "Adjustments using the Adjustment Program" need to be performed after reassembling the printer completely.**
- **If you have removed or replaced multiple parts, make sure to check the required adjustments for the all parts. And when multiple adjustments must be carried out, be sure to carry out them in the order given in the "Priority" row.**

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Table 3-1. Required Adjustment List

Adjustment Type			Mechanism adjustment	
Priority			1	2
Adjustment Item			Checking the Platen Gap	Touch panel adjustment (Only XP-8500/XP-8505)
Purpose			Check if the PG is within the standard.	Align recognizing position of the touch panel with indicating position of the control panel
Parts Name	SCN Unit	Remove	---	---
		Replace	---	---
	SCN Motor Assy	Remove	---	---
		Replace	---	---
	Printhead	Remove	O	---
		Replace	O	---
	PW Sensor	Remove	---	---
		Replace	---	---
	Upper MSF Assy	Remove	---	---
		Replace	---	---
	Lower MSF Assy	Remove	---	---
		Replace	---	---
	CR Motor	Remove	---	---
		Replace	---	---
	ASF Motor	Remove	---	---
		Replace	---	---
	I/S_APG Motor	Remove	---	---
		Replace	---	---
	PS Unit	Remove	---	---
		Replace	---	---
	Lower Left Housing Assy	Remove	---	---
		Replace	---	---
	Main Board Assy	Remove	---	---
		Replace (Read OK)	---	---
		Replace (Read NG)	---	O
	Sub Board	Remove	---	---
		Replace	---	---
Printout pattern			---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p112)" for the details.	See " 3.3.2 Touch Panel Adjustment (Only XP-8500/XP-8505) (p116)" for the Details.
Adjustment program			---	---
Tool			See p 112.	See p 116.

Table 3-1. Required Adjustment List

Adjustment Type			Mechanism adjustment	
Priority			1	2
Adjustment Item			Checking the Platen Gap	Touch panel adjustment (Only XP-8500/XP-8505)
Purpose			Check if the PG is within the standard.	Align recognizing position of the touch panel with indicating position of the control panel
Parts Name	CR Assy	Remove	O	---
		Replace	O	---
	Right Frame Base Assy	Remove	---	---
		Replace	---	---
	Paper Guide Lower Porous Pad	Remove	---	---
		Replace	---	---
	PE Sensor Unit	Remove	---	---
		Replace	---	---
	Star wheel Holder Assy	Remove	---	---
		Replace	---	---
	Parallelism Bush (L)	Remove	---	---
		Replace	O	---
	Parallelism Bush (R)	Remove	---	---
		Replace	O	---
	Upper Paper Guide Assy	Remove	---	---
		Replace	---	---
	Front Paper Guide Assy	Remove	---	---
		Replace	O	---
	Paper Guide Lower Front Porous Pad	Remove	---	---
		Replace	---	---
	PF Motor Assy	Remove	---	---
		Replace	---	---
	Paper Guide Lower Front Porous Pad B	Remove	---	---
		Replace	---	---
	Panel Frame Assy	Remove	---	---
		Replace	---	---
	Panel Unit	Remove	---	---
		Replace	---	O
	Main Frame Assy	Remove	---	---
		Replace	---	---
Printout pattern			---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p112)" for the details.	See " 3.3.2 Touch Panel Adjustment (Only XP-8500/XP-8505) (p116)" for the Details.
Adjustment program			---	---
Tool			See p 112.	See p 116.

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Table 3-1. Required Adjustment List

Adjustment Type			Mechanism adjustment	
Priority			1	2
Adjustment Item			Checking the Platen Gap	Touch panel adjustment (Only XP-8500/XP-8505)
Purpose			Check if the PG is within the standard.	Align recognizing position of the touch panel with indicating position of the control panel
Parts Name	CR Motor	Remove	---	---
		Replace	---	---
	PE Sensor	Remove	---	---
		Replace	---	---
	EJ Roller Assy	Remove	---	---
		Replace	---	---
	PF Roller Assy	Remove	---	---
		Replace	---	---
	PF Motor Assy	Remove	---	---
		Replace	---	---
	Frame Base	Remove	---	---
		Replace	---	---
	Duplex Unit	Remove	---	---
		Replace	---	---
	Upper Tray Assy	Remove	---	---
		Replace	---	---
	Upper Tray	Remove	---	---
		Replace	---	---
	Lower Tray Assy	Remove	---	---
		Replace	---	---
	CDR Tray	Remove	---	---
		Replace	---	---
	Printer Mechanism	Remove	---	---
		Replace	O	---
Printout pattern			---	---
How to judge			See " 3.3.1 Checking the Platen Gap (p112)" for the details.	See " 3.3.2 Touch Panel Adjustment (Only XP-8500/XP-8505) (p116)" for the Details.
Adjustment program			---	---
Tool			See p 112.	See p 116.

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Table 3-2. Required adjustment

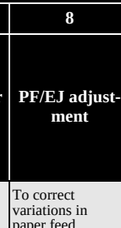
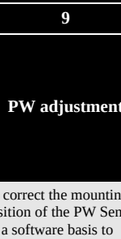
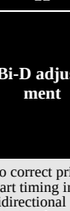
Adjustment Type			Adjustment using the Adjustment Program																				
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	18	14	19	17	15	16	20	21	22
Adjustment Item			EEPROM data copy	Initialize Setting (Including S/No. & MAC address setting)	Head ID input	Ink charge	Waste Ink Pad counter reset	Photo sensor light level adjustment	Head angular adjustment	PF/EJ adjustment	PW adjustment	PE adjustment	Bi-D adjustment	PF deterioration offset	CD print counter clear	Initialize photo paper deterioration offset	Initialize PW sensor deterioration counter	ASF Motor heat protection control	Stacker Motor heat protection control	CR Motor heat protection control	PF Motor heat protection control	IS Motor heat protection control	SCN Motor heat protection control	APG performance check
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings, the serial number and the adjustment initial value into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the borderless waste ink pad counter after replacing the borderless waste ink pad.	Corrects the amount of light of PW and PE Sensors to adjust their paper levels.	To correct tilt of the Printhead caused at the installation through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct the mounting position of the PW Sensor on a software basis to adjust the detection position and Nozzle position dispersion.	To correct the paper detection positions and the mounting positions of the PE Sensor by software control.	To correct print start timing in bidirectional printing through software control.	To reset the counter according to the replaced parts.	Initializes the CD-R print counter when replacing the CDR tray to reset the correction value for the CDR tray's deterioration applied according to the CD-R print counter.	To reset the total print pages counter when replacing the Printer Mecha Unit (replacing the PF Roller).	For deterioration of the sensor by mist etc., correct the light level with software.	To measure and correct the electrical variation of each motor and the power supply board.						Confirm the PG switching is performed correctly.
Part Name	SCN Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---
	SCN Motor Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---
	Printhead	Remove	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	O	O	---	---	O	---	O	O	O	---	---	---	---	---	---	---	---	---	---	---
	PW Sensor	Remove	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	O	O	---	O	O	O	---	---	---	O	---	---	---	---	---	---	---
	Upper MSF Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	O	---	---	---	---	---	---	---	---	---	---	---
	Lower MSF Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	CR Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---
	ASF Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---
			---	---	---	---	---	---				---		---	---	---	---	---	---	---	---	---	---	---
			---	---	---	---	---	See " 3.2.2.4 Photo sensor light level adjustment (p108)" for the details	■ **Band pattern** Enter the values of the most straight lines. ■ **Microweave pattern** Enter the value for the group of which the gaps between the two color bars are the smallest.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	■ **PW Adjustment** Examine the misaligned lines printed on top, bottom, left, and right of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side. ■ **Left/right margin adjustment** Input the value of the point where vertical line 5 mm away from the left edge of paper and stepped pattern overlap.	---	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	---	---	See " 3.2.2.1 Initialize photo paper deterioration offset (p106)" for the details.	See " 3.2.2.5 PW adjustment / PE adjustment (p109)" for the details.	See " 3.2.2.2 CR Motor/PF Motor/IS Motor/ASF Motor/Stacker Motor heat protection control (p107)" for the details.							See " 3.2.2.3 SCN Motor heat protection control (p108)" for the details.	---
			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
			---	---	---	---	---	---	---	---	Ruler	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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Table 3-2. Required adjustment

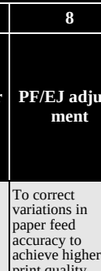
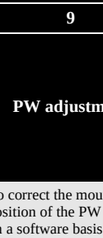
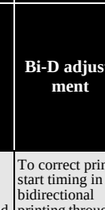
Adjustment Type			Adjustment using the Adjustment Program																				
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	18	14	19	17	15	16	20	21	22
Adjustment Item			EEPROM data copy	Initialize Setting (Including S/No. & MAC address setting)	Head ID input	Ink charge	Waste Ink Pad counter reset	Photo sensor light level adjustment	Head angular adjustment	PF/EJ adjustment	PW adjustment	PE adjustment	Bi-D adjustment	PF deterioration offset	CD print counter clear	Initialize photo paper deterioration offset	Initialize PW sensor deterioration counter	ASF Motor heat protection control	Stacker Motor heat protection control	CR Motor heat protection control	PF Motor heat protection control	IS Motor heat protection control	SCN Motor heat protection control	APG performance check
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings, the serial number and the adjustment initial value into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the borderless waste ink pad counter after replacing the borderless waste ink pad.	Corrects the amount of light of PW and PE Sensors to adjust their paper levels.	To correct tilt of the Printhead caused at the installation through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct the mounting position of the PW Sensor on a software basis to adjust the detection position and Nozzle position dispersion.	To correct the paper detection positions and the mounting positions of the PE Sensor by software control.	To correct print start timing in bidirectional printing through software control.	To reset the counter according to the replaced parts.	Initializes the CD-R print counter when replacing the CDR tray to reset the correction value for the CDR tray's deterioration applied according to the CD-R print counter.	To reset the total print pages counter when replacing the Printer Mecha Unit (replacing the PF Roller).	For deterioration of the sensor by mist etc., correct the light level with software.	To measure and correct the electrical variation of each motor and the power supply board.						Confirm the PG switching is performed correctly.
Part Name	I/S_APG Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---
	PS Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	O	O	O	O	O	---
	Lower Left Housing Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace (Read OK)	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace (Read NG)	---	O	O	---	O	O	O	O	O	O	O	---	---	---	---	---	---	O	O	O	O	---
	Main Board Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace (Read OK)	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace (Read NG)	---	O	O	---	O	O	O	O	O	O	O	---	---	---	---	---	---	O	O	O	O	---
	Sub Board	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	O	---	---	---	---	---
	CR Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	O	O	---	O	O	O	---	---	---	---	---	---	O	---	---	---	O
			---	---	---	---	---				---		---	---	---	---	---	---	---	---	---	---	---	---	---
			---	---	---	---	---	See " 3.2.2.4 Photo sensor light level adjustment (p108)" for the details	■ **Band pattern** Enter the values of the most straight lines. ■ **Microweave pattern** Enter the value for the group of which the gaps between the two color bars are the smallest.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	■ **PW Adjustment** Examine the misaligned lines printed on top, bottom, left, and right of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side. ■ **Left/right margin adjustment** Input the value of the point where vertical line 5 mm away from the left edge of paper and stepped pattern overlap.	---	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	---	---	See " 3.2.2.1 Initialize photo paper deterioration offset (p106)" for the details.	See " 3.2.2.5 PW adjustment / PE adjustment (p109)" for the details.	See " 3.2.2.2 CR Motor/PF Motor/IS Motor/ASF Motor/Stacker Motor heat protection control (p107)" for the details.							See " 3.2.2.3 SCN Motor heat protection control (p108)" for the details.	---
			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
			---	---	---	---	---	---	---	---	Ruler	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 3-2. Required adjustment

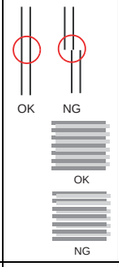
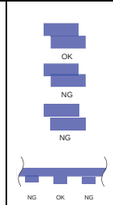
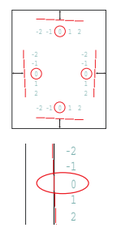
Adjustment Type			Adjustment using the Adjustment Program																				
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	18	14	19	17	15	16	20	21	22
Adjustment Item			EEPROM data copy	Initialize Setting (Including S/No. & MAC address setting)	Head ID input	Ink charge	Waste Ink Pad counter reset	Photo sensor light level adjustment	Head angular adjustment	PF/EJ adjustment	PW adjustment	PE adjustment	Bi-D adjustment	PF deterioration offset	CD print counter clear	Initialize photo paper deterioration offset	Initialize PW sensor deterioration counter	ASF Motor heat protection control	Stacker Motor heat protection control	CR Motor heat protection control	PF Motor heat protection control	IS Motor heat protection control	SCN Motor heat protection control	APG performance check
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings, the serial number and the adjustment initial value into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the borderless waste ink pad counter after replacing the borderless waste ink pad.	Corrects the amount of light of PW and PE Sensors to adjust their paper levels.	To correct tilt of the Printhead caused at the installation through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct the mounting position of the PW Sensor on a software basis to adjust the detection position and Nozzle position dispersion.	To correct the paper detection positions and the mounting positions of the PE Sensor by software control.	To correct print start timing in bidirectional printing through software control.	To reset the counter according to the replaced parts.	Initializes the CD-R print counter when replacing the CDR tray to reset the correction value for the CDR tray's deterioration applied according to the CD-R print counter.	To reset the total print pages counter when replacing the Printer Mecha Unit (replacing the PF Roller).	For deterioration of the sensor by mist etc., correct the light level with software.	To measure and correct the electrical variation of each motor and the power supply board.						Confirm the PG switching is performed correctly.
Part Name	Paper Guide Lower Porous Pad	Remove	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	O	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---
	PE Sensor Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	O	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---
	Star wheel Holder Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Parallelism Bush (L)	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---
	Parallelism Bush (R)	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---
	Upper Paper Guide Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	---	---	O	---	---	---	---	---	---	---	---	---	---	---
	Front Paper Guide Assy	Remove	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	---	O	O	---	---	---	---	---	---	---	---	---	---	---
	Paper Guide Lower Front Porous Pad	Remove	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	O	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---
	PF Motor Assy	Remove	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	O	---	---	---
			---	---	---	---	---	---				---		---	---	---	---	---	---	---	---	---	---	---	---
			---	---	---	---	---	See "3.2.2.4 Photo sensor light level adjustment (p108)" for the details	■ **Band pattern** Enter the values of the most straight lines. ■ **Microweave pattern** Enter the value for the group of which the gaps between the two color bars are the smallest.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	■ **PW Adjustment** Examine the misaligned lines printed on top, bottom, left, and right of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side. ■ **Left/right margin adjustment** Input the value of the point where vertical line 5 mm away from the left edge of paper and stepped pattern overlap.	---	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	---	---	See "3.2.2.1 Initialize photo paper deterioration offset (p106)" for the details.	See "3.2.2.5 PW adjustment / PE adjustment (p109)" for the details.	See "3.2.2.2 CR Motor/PF Motor/IS Motor/ASF Motor/Stacker Motor heat protection control (p107)" for the details.								See "3.2.2.3 SCN Motor heat protection control (p108)" for the details.	---
			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
			---	---	---	---	---	---	---	---	Ruler	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 3-2. Required adjustment

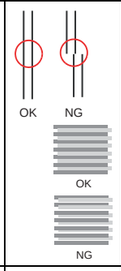
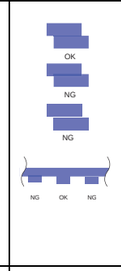
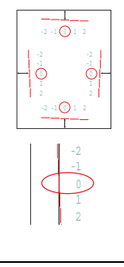
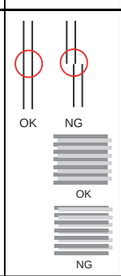
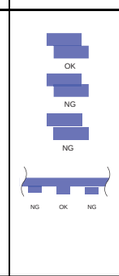
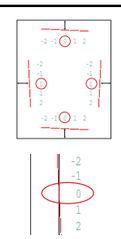
Adjustment Type			Adjustment using the Adjustment Program																				
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	18	14	19	17	15	16	20	21	22
Adjustment Item			EEPROM data copy	Initialize Setting (Including S/No. & MAC address setting)	Head ID input	Ink charge	Waste Ink Pad counter reset	Photo sensor light level adjustment	Head angular adjustment	PF/EJ adjustment	PW adjustment	PE adjustment	Bi-D adjustment	PF deterioration offset	CD print counter clear	Initialize photo paper deterioration offset	Initialize PW sensor deterioration counter	ASF Motor heat protection control	Stacker Motor heat protection control	CR Motor heat protection control	PF Motor heat protection control	IS Motor heat protection control	SCN Motor heat protection control	APG performance check
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings, the serial number and the adjustment initial value into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the borderless waste ink pad counter after replacing the borderless waste ink pad.	Corrects the amount of light of PW and PE Sensors to adjust their paper levels.	To correct tilt of the Printhead caused at the installation through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct the mounting position of the PW Sensor on a software basis to adjust the detection position and Nozzle position dispersion.	To correct the paper detection positions and the mounting positions of the PE Sensor by software control.	To correct print start timing in bidirectional printing through software control.	To reset the counter according to the replaced parts.	Initializes the CD-R print counter when replacing the CDR tray to reset the correction value for the CDR tray's deterioration applied according to the CD-R print counter.	To reset the total print pages counter when replacing the Printer Mecha Unit (replacing the PF Roller).	For deterioration of the sensor by mist etc., correct the light level with software.	To measure and correct the electrical variation of each motor and the power supply board.							Confirm the PG switching is performed correctly.
Part Name	Paper Guide Lower Front Porous Pad B	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	O	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---
	Panel Frame Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---
	Panel Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Main Frame Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	O	O	---	O	O	O	---	---	---	---	---	---	O	---	---	---	---
	CR Motor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---
	PE Sensor	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	O	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---
	EJ Roller Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	---	---	O	---	---	---	---	---	---	---	---	---	---	---
	PF Roller Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	---	O	O	O	---	---	---	---	---	---	---	---	---	---
	PF Motor Assy	Remove	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	O	---	---	---
			---	---	---	---	---	---				---		---	---	---	---	---	---	---	---	---	---	---	---
			---	---	---	---	---	See "3.2.2.4 Photo sensor light level adjustment (p108)" for the details	■ **Band pattern** Enter the values of the most straight lines. ■ **Microweave pattern** Enter the value for the group of which the gaps between the two color bars are the smallest.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	■ **PW Adjustment** Examine the misaligned lines printed on top, bottom, left, and right of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side. ■ **Left/right margin adjustment** Input the value of the point where vertical line 5 mm away from the left edge of paper and stepped pattern overlap.	---	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	---	---	See " 3.2.2.1 Initialize photo paper deterioration offset (p106)" for the details.	See" 3.2.2.5 PW adjustment / PE adjustment (p109)" for the details.	See " 3.2.2.2 CR Motor/PF Motor/IS Motor/ASF Motor/Stacker Motor heat protection control (p107)" for the details.							See " 3.2.2.3 SCN Motor heat protection control (p108)" for the details.	---
			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
			---	---	---	---	---	---	---	---	Ruler	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 3-2. Required adjustment

Adjustment Type			Adjustment using the Adjustment Program																			
Priority			1	2	3	4	5	6	7	8	9	10	11	12	13	18	14	19	17	15	16	20	21	22
Adjustment Item			EEPROM data copy	Initialize Setting (Including S/No. & MAC address setting)	Head ID input	Ink charge	Waste Ink Pad counter reset	Photo sensor light level adjustment	Head angular adjustment	PF/EJ adjustment	PW adjustment	PE adjustment	Bi-D adjustment	PF deterioration offset	CD print counter clear	Initialize photo paper deterioration offset	Initialize PW sensor deterioration counter	ASF Motor heat protection control	Stacker Motor heat protection control	CR Motor heat protection control	PF Motor heat protection control	IS Motor heat protection control	SCN Motor heat protection control	APG performance check
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To write sale-destination-specific settings, the serial number and the adjustment initial value into the Main Board after replacing it. And also to set the MAC address as necessary.	To correct characteristic variation of the replaced Printhead by entering its Printhead ID (Head ID).	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To reset the borderless waste ink pad counter after replacing the borderless waste ink pad.	Corrects the amount of light of PW and PE Sensors to adjust their paper levels.	To correct tilt of the Printhead caused at the installation through software control.	To correct variations in paper feed accuracy to achieve higher print quality.	To correct the mounting position of the PW Sensor on a software basis to adjust the detection position and Nozzle position dispersion.	To correct the paper detection positions and the mounting positions of the PE Sensor by software control.	To correct print start timing in bidirectional printing through software control.	To reset the counter according to the replaced parts.	Initializes the CD-R print counter when replacing the CDR tray to reset the correction value for the CDR tray's deterioration applied according to the CD-R print counter.	To reset the total print pages counter when replacing the Printer Mecha Unit (replacing the PF Roller).	For deterioration of the sensor by mist etc., correct the light level with software.	To measure and correct the electrical variation of each motor and the power supply board.							Confirm the PG switching is performed correctly.
Part Name	Frame Base	Remove	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	O	O	---	---	---	---	---	---	---	---	---	---	---	---
	Duplex Unit	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	O	O	O	---	---	---	---	---	---	---	---	---	---	---	---
	Upper Tray Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---
	Lower Tray Assy	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---	---	---	---	---
	CDR Tray	Remove	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Replace	---	---	---	---	---	---	---	---	---	---	---	---	O	---	---	---	---	---	---	---	---	---
			---	---	---	---	---	---				---		---	---	---	---	---	---	---	---	---	---	---	---
			---	---	---	---	---	See " 3.2.2.4 Photo sensor light level adjustment (p108)" for the details	■ **Band pattern** Enter the values of the most straight lines. ■ **Microweave pattern** Enter the value for the group of which the gaps between the two color bars are the smallest.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.	■ **PW Adjustment** Examine the misaligned lines printed on top, bottom, left, and right of the paper, and enter the number beside the line that is exactly 5 mm away from the paper edge for each side. ■ **Left/right margin adjustment** Input the value of the point where vertical line 5 mm away from the left edge of paper and stepped pattern overlap.	---	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	---	---	See " 3.2.2.1 Initialize photo paper deterioration offset (p106)" for the details.	See" 3.2.2.5 PW adjustment / PE adjustment (p109)" for the details.	See " 3.2.2.2 CR Motor/PF Motor/IS Motor/ASF Motor/Stacker Motor heat protection control (p107)" for the details.							See " 3.2.2.3 SCN Motor heat protection control (p108)" for the details.	---
			O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
			---	---	---	---	---	---	---	---	Ruler	---	---	---	---	---	---	---	---	---	---	---	---	---	---

3.2 Adjustment Program

This section provides the operating environment, functions related to safety and privacy policy, and the adjustment item newly added of the Adjustment Program. See "3.1 Required Adjustments (p97)" for the adjustments not explained here.

3.2.1 Operating Environment

The operating environment for the Adjustment Program is as follows.

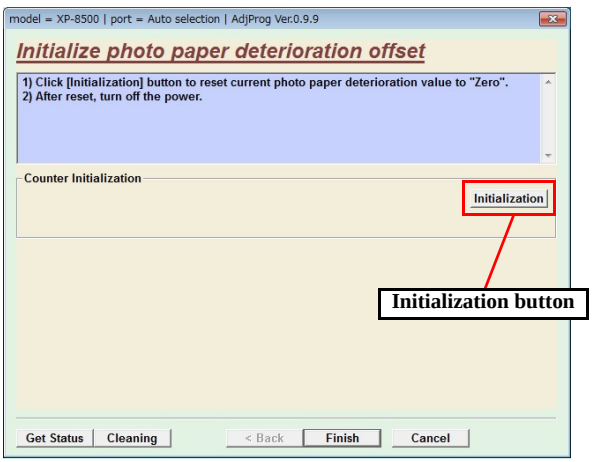
- ☐ OS: Windows XP, Vista, 7, 8, 8.1
- ☐ Interface: USB

3.2.2 Details of the Adjustment Program

■ **Use the paper size and the Paper type the same as the instruction. Moreover, set the paper size and the paper type on LCD panel according to the instruction.**

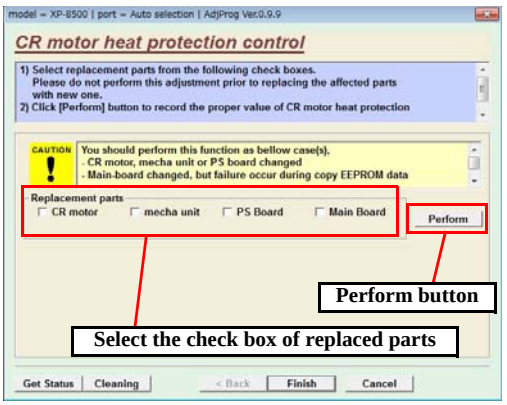
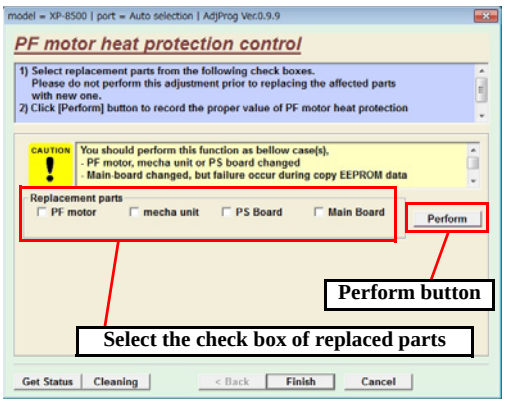
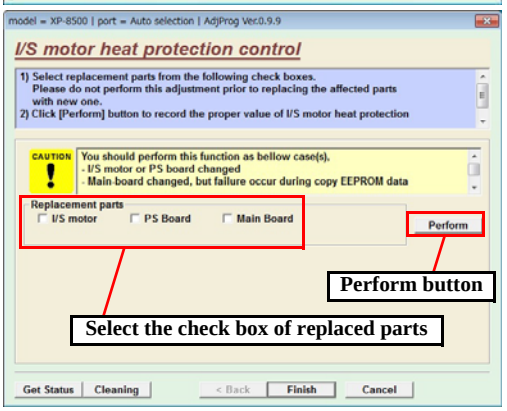
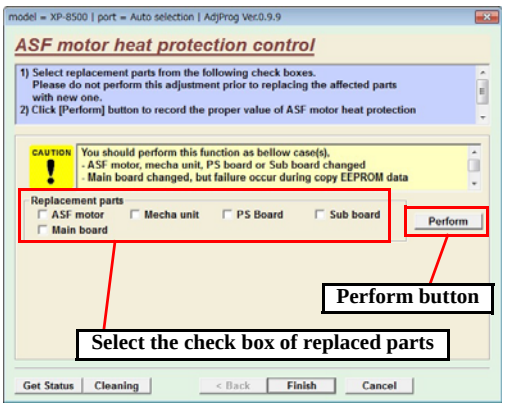
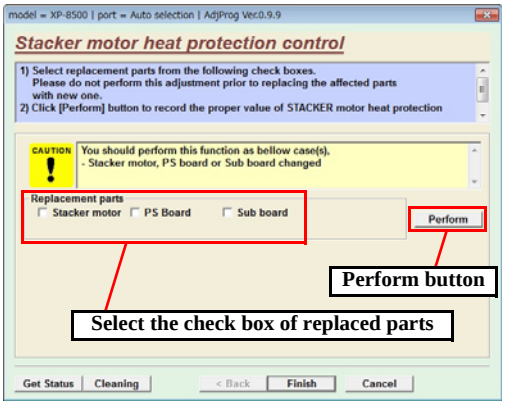
Refer to the guide in the Adjustment Program for the details of the procedure.

3.2.2.1 Initialize photo paper deterioration offset

Purpose	For high accuracy in printing on exclusive paper, perform deterioration correction for photo paper. To match the deterioration state of the PF Roller and the soft counter (exclusive paper deterioration offset counter) saved in the EEPROM, initializes the counter.
Risks if the adjustment is not correctly made	Non-uniformity of print result may occur because of mismatch between the deterioration state of the PF Roller and the soft counter.
Procedure	1. Select from the menu of the Adjustment Program and press the “Initialization” button to initialize the exclusive paper deterioration offset. 2. After pressing the button, the correction value is automatically measured and the measurement value is written to the EEPROM on the Main Board.
Adjustment Program screen	
Remarks	---

Confidential

3.2.2.2 CR Motor/PF Motor/IS Motor/ASF Motor/Stacker Motor heat protection control

Purpose	To measure the manufacturing variations of the DC motors (CR Motor/PF Motor/I/S_APG Motor/ASF Motor/ Stacker Motor), Main Board and Power Supply Board to determine the correction value used for estimating the current values of the motors.
Risks if the adjustment is not correctly made	The printer cannot measure the current value of motor correctly, then the heat generation caused by motor drive cannot be estimated accurately either, and which may results in trouble such as incorrect control of motors when allotting a cool down period according to each heat generation. In the worst case, excessive heat generation may cause smoke or ignition.
Procedure	1. Select from the menu of the Adjustment Program. Check the check box of the replaced parts and press the "Perform" button to measure the correction value. 2. The correction value is automatically measured and the measurement value is written to the EEPROM on the Main Board.
Adjustment Program screen	    
Remarks	I/S motor heat protection control and Stacker motor heat protection control: Except for XP-6000 series

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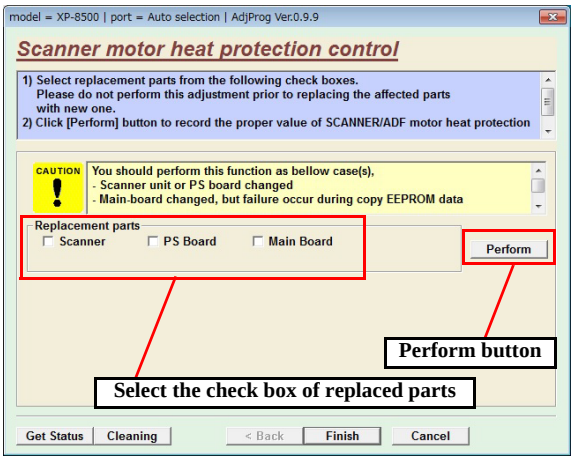
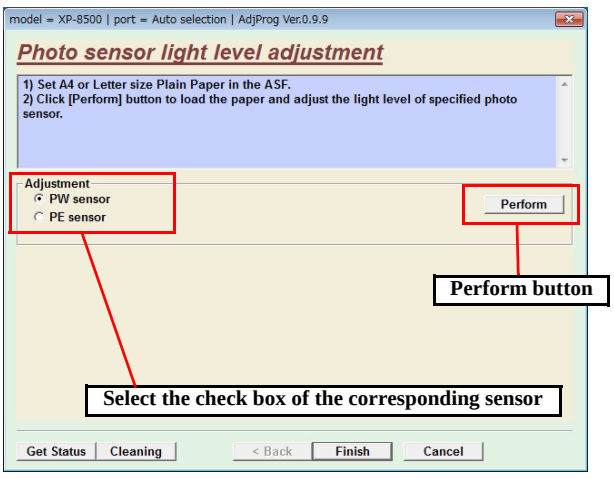
3.2.2.3 SCN Motor heat protection control

Purpose	To measure the manufacturing variations of the DC motors (SCN Motor), Main Board and Power Supply Board to determine the correction value used for estimating the current values of the motors.
Risks if the adjustment is not correctly made	The printer cannot measure the current value of motor correctly, then the heat generation caused by motor drive cannot be estimated accurately either, and which may results in trouble such as incorrect control of motors when allotting a cool down period according to each heat generation. In the worst case, excessive heat generation may cause smoke or ignition.
Procedure	1. Select from the menu of the Adjustment Program. Check the check box of the replaced parts and press the "Perform" button to measure the correction value. 2. Turn off the printer and turn it back on. 3. The correction value is automatically measured and the measurement value is written to the EEPROM on the Main Board.
Adjustment Program screen	
Remarks	---

3.2.2.4 Photo sensor light level adjustment

Purpose	To adjust the current values supplied to the sensor to optimize the light amount of the PE / PW Sensor.
Risks if the adjustment is not correctly made	The value of current varies due to deterioration by mist or the characteristics of sensors or boards. As a result, the detection timing may be shifted and cause a negative influence on the printing quality.
Procedure	1. Set bright white inkjet paper (A4) in 1st Bin cassette. 2. Select from the menu of the Adjustment Program and select the relevant sensor's check box. And then, press the "Perform" button to adjust. 3. After the paper is fed and ejected, the correction value is automatically corrected and the measurement value is written to the EEPROM on the Main Board.
Adjustment Program screen	
Remarks	---

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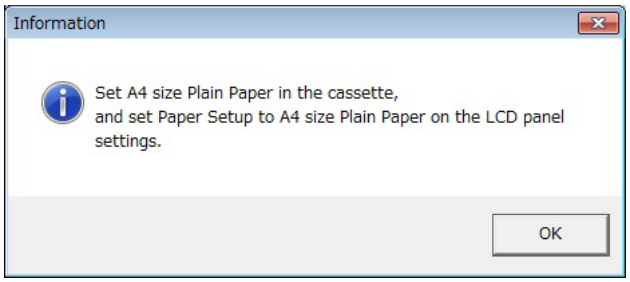
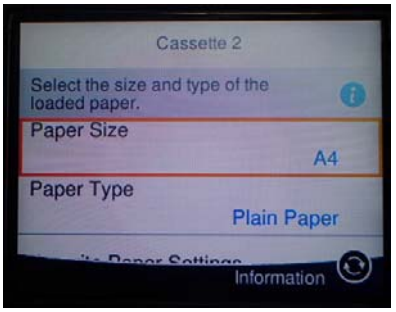
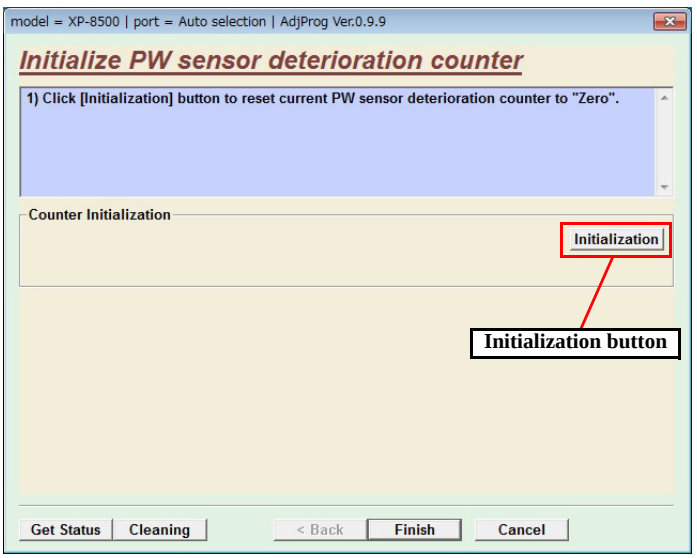
3.2.2.5 PW adjustment / PE adjustment

Adjustment Program screen message	 
Caution	The paper jam is happened, if the paper setting of the LCD panel is not set to the A4 size and not use the A4 plain paper.

3.2.2.6 Initialize PW sensor deterioration counter

Purpose	Initializes the counter to reset the soft counter saved on the EEPROM (PF deterioration offset soft counter) to fit the PW sensor deterioration condition by ink mist.
Risks if the adjustment is not correctly made	Mismatch between the PW sensor deterioration condition and the soft counter may result, which may cause an uniformity of paper margin.
Procedure	1. Select from the menu of the Adjustment Program and press the “Initialization” button to initialize the PW deterioration offset. 2. After pressing the button, the PW deterioration correction value is automatically initialized and the initial value is written to the EEPROM on the Main Board.
Adjustment Program screen	
Remarks	---

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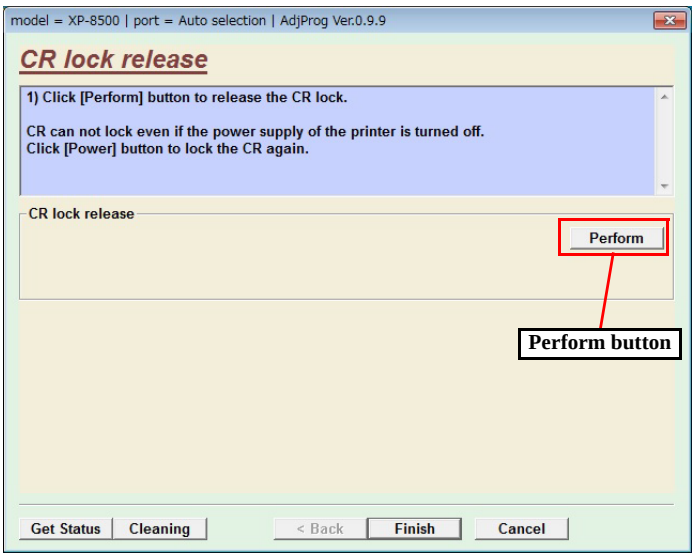
3.2.2.7 CR Lock release

Purpose	Releases the CR Lock.
Procedure	1. Select from the menu of the Adjustment Program and press the "Perform" button to release the CR Lock 2. After pressing the button, the CR Lock is released.
Adjustment Program screen	
Remarks	---

3.2.2.8 MAC Address Setting

- **This setting is not necessary when the data in EEPROM on the Main Board can be read out.**
- **To avoid using the same MAC address which already someone uses on the same network; which causes trouble such as being unable to connect the network, make sure to follow the MAC address setting flowchart given below.**
- **Make sure to notify the user that the MAC address has been changed because of the following reasons.**
  - **If the user is using MAC Filtering on the router, the repaired printer with a new MAC address may not be connected to the network.**
  - **Since the default printer name on a network consists of "EPSON" and the last six digits of the MAC address, the printer name becomes different from the previous one.**
- **Enter the last six digits of the MAC address (xx:yy:zz) to the adjustment program.**
  MAC address example: F8:D0:27:xx:yy:zz
  ("xx, yy, zz" represents a value unique to each printer.)

Figure 3-1. MAC address label

☐ Setting procedure

1. When replacing the Main Board Assy, check the MAC address label attached on the Shield Plate M/B and write down the MAC address.
2. Reassemble the printer and connect the printer and the PC with the USB cable.

3. Start the adjustment program.
4. Select “Initial setting” on the menu of the adjustment program to display the setting screen.
5. Enter the last six digits of MAC address into the MAC address entry field, and click the Perform button.
6. Select the network status sheet print menu on the printer’s control panel, and print the sheet. Check the MAC address printed on the sheet to see if it is correct.

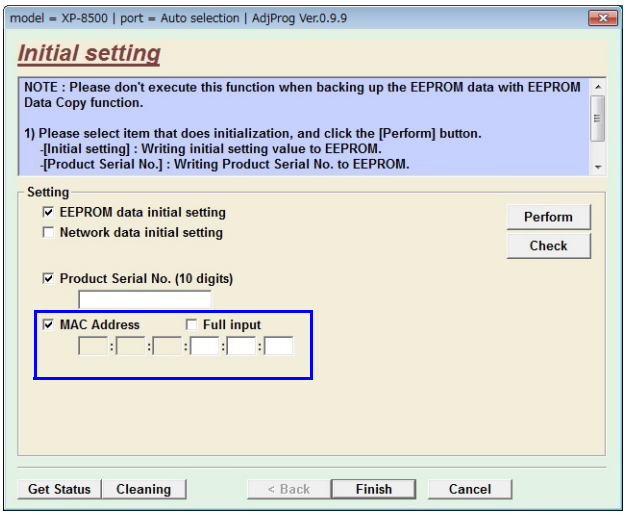

model = XP-8500 | port = Auto selection | AdjProg Ver.0.9.9
Initial setting
NOTE : Please don't execute this function when backing up the EEPROM data with EEPROM Data Copy function.
1) Please select item that does initialization, and click the [Perform] button.
-[Initial setting] : Writing initial setting value to EEPROM.
-[Product Serial No.] : Writing Product Serial No. to EEPROM.
Setting
EEPROM data initial setting
Network data initial setting
Perform
Check
Product Serial No. (10 digits)
MAC Address
Full input
Get Status
Cleaning
< Back
Finish
Cancel

Figure 3-2. MAC address setting screen

3.3 Mechanism Adjustment / Check

This section provides the procedure for the mechanism adjustment and check.

3.3.1 Checking the Platen Gap

This section describes the procedure for checking the platen gap (PG)

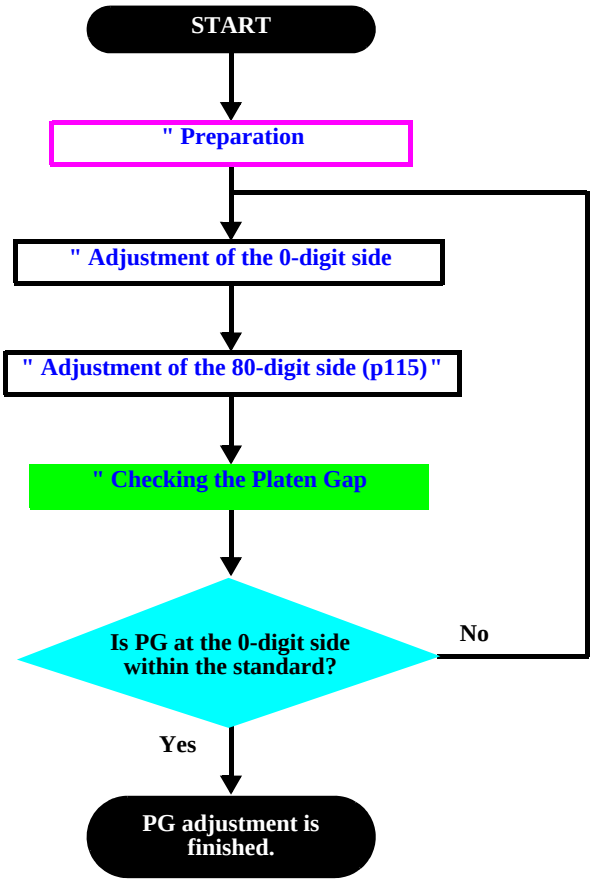
- **The standard range of the PG is as follows:**
  - **Standard: 1.2 ± 0.1 mm (PG -)**
- **This adjustment should be carried out with the mechanism in the minimum PG position (PG -) before installing the CR Scale.**

☐ Tools

- Thickness gauge: 1.1 mm, 1.3 mm

3.3.1.1 PG Adjustment procedure

PG Adjustment is as follows.


START
" Preparation
" Adjustment of the 0-digit side
" Adjustment of the 80-digit side (p115)"
" Checking the Platen Gap
Is PG at the 0-digit side within the standard?
No
Yes
PG adjustment is finished.

Flowchart 3-1. PG adjustment flow

3.3.1.2 Preparation

Before PG Adjustment, check the following.

- ☐ The rib A on the CR Shaft Gear should be set vertically upward in the PG position (PG -).
- ☐ The center of the notch of the Parallelism Bush on the side of the printer is set in the position of the rib B.

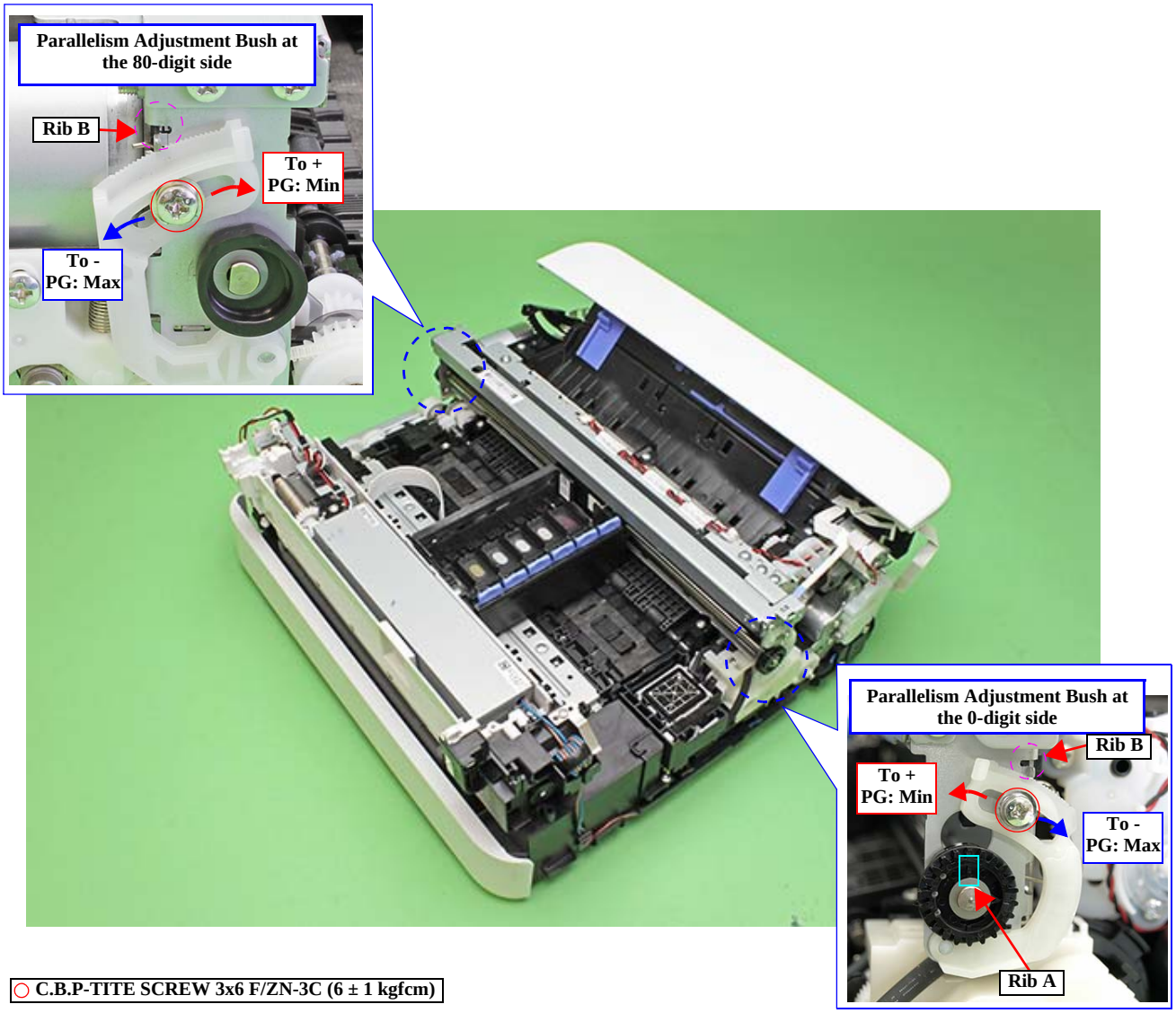

Parallelism Adjustment Bush at the 80-digit side
Rib B
To + PG: Min
To - PG: Max
Parallelism Adjustment Bush at the 0-digit side
Rib B
To + PG: Min
To - PG: Max
Rib A
○ C.B.P-TITE SCREW 3x6 F/ZN-3C (6 ± 1 kgfcm)

Figure 3-3. Position of Parallelism Bush

3.3.1.3 Adjustment procedure

When performing the PG adjustment, make sure of the following.

- **Move the CR Unit by pulling the top pf the CR Timing Belt.**
- **Be careful not to damage the nozzle surface of the Printhead with the thickness gauge.**
- **PG Adjustment should be carried out with the new ink cartridges are installed. The ink cartridges should be installed with the CR Unit is in the ink cartridge exchange position. (See Printhead (p86).)**

Adjustment of the 0-digit side

1. Loosen the screw (x2) on the CR Guide Rail and the screw (x2) securing the Parallelism Adjustment Bushing on the left/right of the printer. (See Figure 3-3.)
2. Move the CR Unit to the center of the printer and place the thickness gauge (1.1 mm) on the position A shown in Figure 3-4.

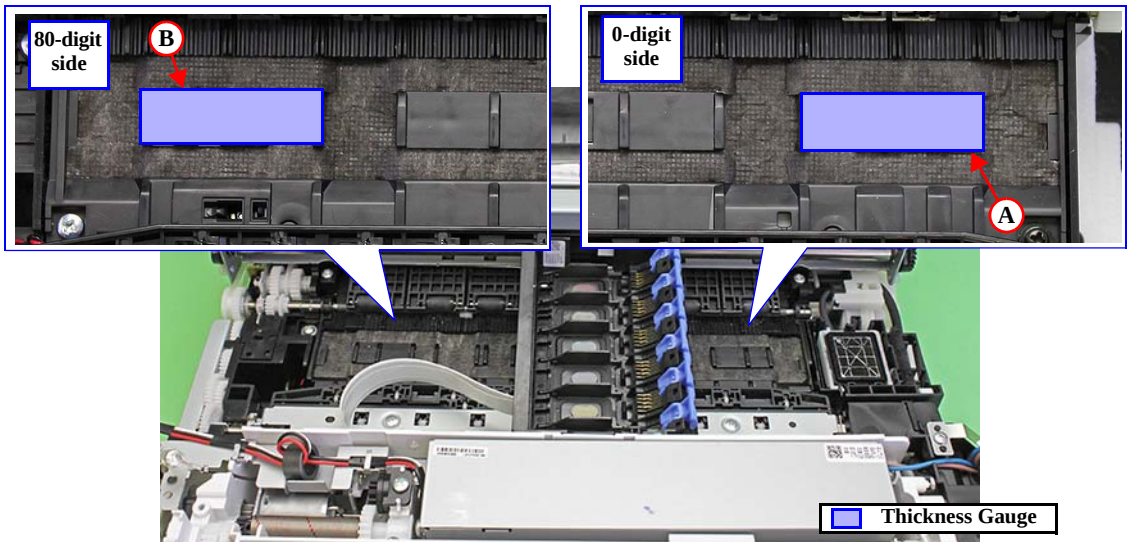


Figure 3-4. Placement of the Thickness Gauge

3. Move the CR Unit to the 0-digit side while pushing the CR Guide Rail from the top and check if the CR Unit touches the thickness gauge.
   - When the CR Unit touches the thickness gauge
     Move the CR Unit to the center, move the Parallelism Adjustment Bushing at the 0-digit side by one notch in the + direction. (See Figure 3-3.)
   - When the CR Unit does not touch the thickness gauge
     Move the CR Unit to the center, move the Parallelism Adjustment Bushing at the 0-digit side in the - direction until the CR Unit touches the thickness gauge and repeat this procedure from Step 3.
4. Move the CR Unit to the 0-digit side again while pushing the CR Guide Rail from the top and check if the CR Unit touches the thickness gauge.
   - When the CR Unit touches the thickness gauge
     Move the CR Unit to the center, move the Parallelism Adjustment Bushing at the 0-digit side by one notch in the + direction and repeat this procedure from Step 3. (See Figure 3-3 (p113).)
   - When the CR Unit does not touch the thickness gauge
     Move the CR Unit to the center and go to Step 5.
5. Remove the thickness gauge (1.1 mm) and place the thickness gauge (1.3 mm) on the position A shown in Figure 3-4 (p114).
6. Move the CR Unit to the 0-digit side and check if the CR Unit touches the thickness gauge.
   - When the CR Unit touches the thickness gauge
     Move the CR Unit to the center and remove the thickness gauge, and secure the screw on the Parallelism Adjustment Bushing at the 0-digit side. Go to Step 7.
   - When the CR Unit does not touch the thickness gauge
     The PG is too wide, so move the CR Unit to the center of the printer and repeat this procedure from Step 2.

Adjustment of the 80-digit side

7. Place the thickness gauge (1.1 mm) on the position B shown in Figure 3-4 (p114).
8. Move the CR Unit to the 80-digit side while pushing the CR Guide Rail from the top and check if the CR Unit touches the thickness gauge.
   - When the CR Unit touches the thickness gauge
     Move the CR Unit to the center, move the Parallelism Adjustment Bushing at the 80-digit side by one notch in the + direction. (See Figure 3-3.)
   - When the CR Unit does not touch the thickness gauge
     Move the CR Unit to the center, move the Parallelism Adjustment Bushing at the 80-digit side in the - direction until the CR Unit touches the thickness gauge and repeat this procedure from Step 8.
9. Move the CR Unit to the 80-digit side again while pushing the CR Guide Rail from the top and check if the CR Unit touches the thickness gauge.
   - When the CR Unit touches the thickness gauge
     Move the CR Unit to the center, move the Parallelism Adjustment Bushing at the 80-digit side by one notch in the + direction and repeat this procedure from Step 8. (See Figure 3-3 (p113).)
   - When the CR Unit does not touch the thickness gauge
     Move the CR Unit to the center and go to Step 10.
10. Remove the thickness gauge (1.1 mm) and place the thickness gauge (1.3 mm) on the position B shown in Figure 3-4 (p114).
11. Move the CR Unit to the 80-digit side and check if the CR Unit touches the thickness gauge.
    - When the CR Unit touches the thickness gauge
      Move the CR Unit to the center and remove the thickness gauge, and secure the screw on the Parallelism Adjustment Bushing at the 80-digit side. Go to Step 12.
    - When the CR Unit does not touch the thickness gauge
      The PG is too wide, so move the CR Unit to the center of the printer and repeat this procedure from Step 7.

Checking the Platen Gap

12. Place the thickness gauge (1.1 mm) on the position A shown in Figure 3-4 (p114).
13. Move the CR Unit to the 0-digit side and check if the CR Unit touches the thickness gauge.
    - When the CR Unit touches the thickness gauge
      Move the CR Unit to the center and repeat this procedure from Step 1.
    - When the CR Unit does not touch the thickness gauge
      Move the CR Unit to the center and remove the thickness gauge, and go to Step 14.
14. Place the thickness gauge (1.3 mm) on the position A shown in Figure 3-4 (p114).
15. Move the CR Unit to the 80-digit side and check if the CR Unit touches the thickness gauge.
    - When the CR Unit touches the thickness gauge
      Move the CR Unit to the center and remove the thickness gauge, and go to Step 16.
    - When the CR Unit does not touch the thickness gauge
      Move the CR Unit to the center and repeat this procedure from Step 1.
16. Secure the screw (x2) on the CR Guide Rail.
    (See Pick Up Assy (p88).)
17. Remove the ink cartridges and complete the adjustment.

3.3.2 Touch Panel Adjustment (Only XP-8500/XP-8505)

This section describes Touch Panel adjustment.

☐ Purpose
This adjustment is made to adjust the relative positions between the LCD screen and the touch panel detection coordinates.

☐ Tools
Touch pen (without a sharp end such as a plastic stick)

In the touch panel adjustment mode, the Touch Panel can be controlled by pressing the area shown below.

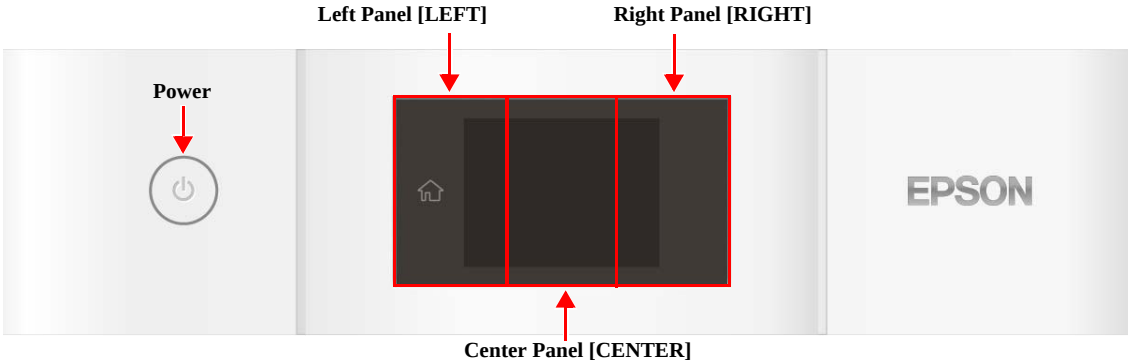
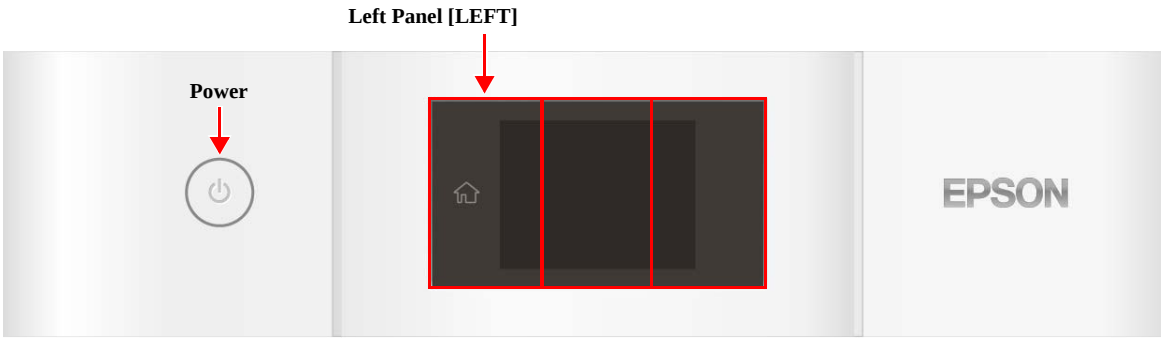


Figure 3-5. Pane control in the touch panel adjusting mode

☐ Adjustment Procedure

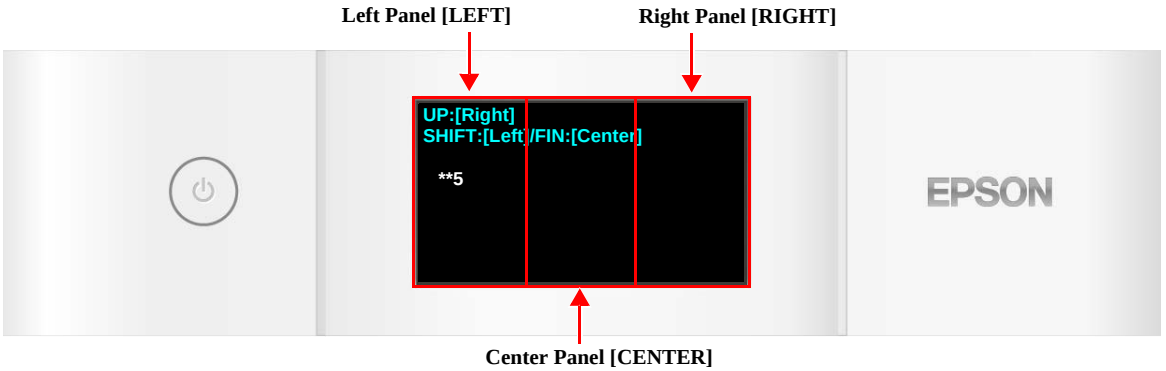
1. Start the printer by pressing the power button three seconds or more while pressing the Left Panel [LEFT].



2. Input the ID by operating the Touch Panel as follows.
   Input ID: 61544

   ■ Operation

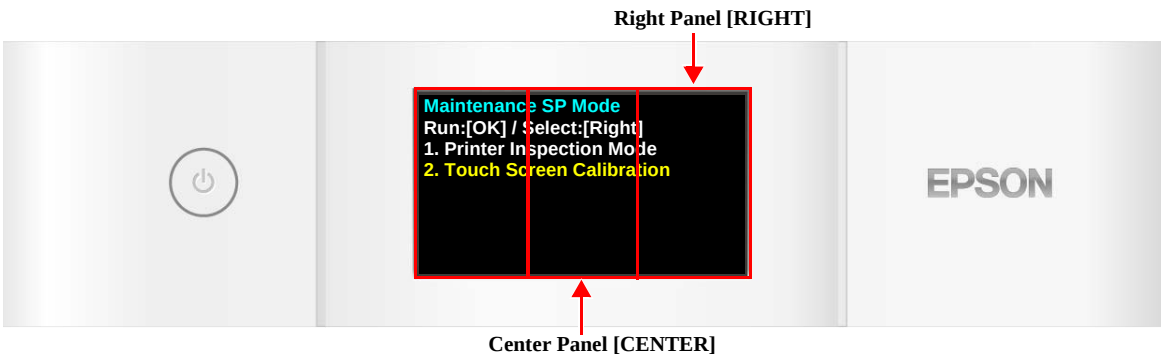
   1. Select the number by tapping the Right Panel [RIGHT] until the number you want to input is indicated.
   2. Confirm the number by tapping the Left Panel [LEFT]. Each number changes to * and the printer enters the waiting state for the next digit entry.
   3. Input the 5-digit ID by repeating step1 and step 2.
   4. When input is complete, confirm the entry by tapping the Center Panel [CENTER].



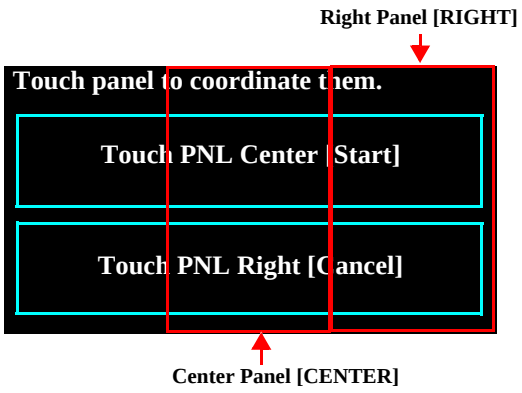
3. Enter the Touch Panel Adjusting Mode by operating the Touch Panel as follows.

   ■ Operation

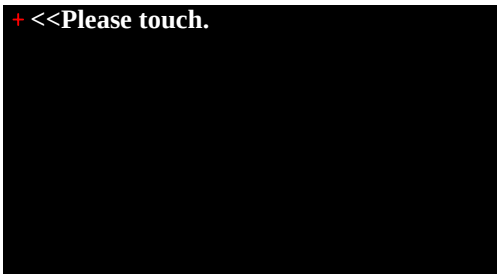
   1. Set “Touch Screen Calibration” as the selected state by tapping the Right Panel [RIGHT].
   2. Enter the Touch Panel Adjusting Mode by tapping the Center Panel [CENTER].



3. Start the adjustment by touching the Center Panel [CENTER]. To cancel the adjustment, press the Right Panel [RIGHT].

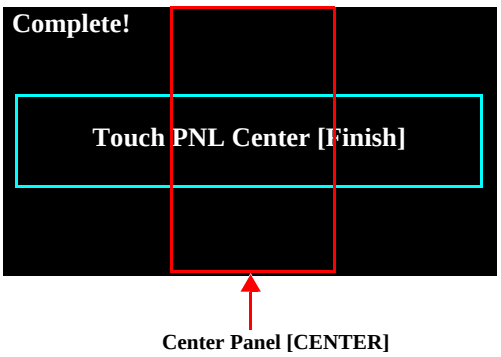


4. Press “+” indicated on the four corners of the Touch Panel in order with the Touch Pen.



5. Press “+” indicated in the middle of the sides of the Touch Panel in order with the Touch Pen.

6. When “Complete!” appears on the Touch Panel, end the adjustment by touching the Center Panel [CENTER].



CHAPTER **4**

MAINTENANCE

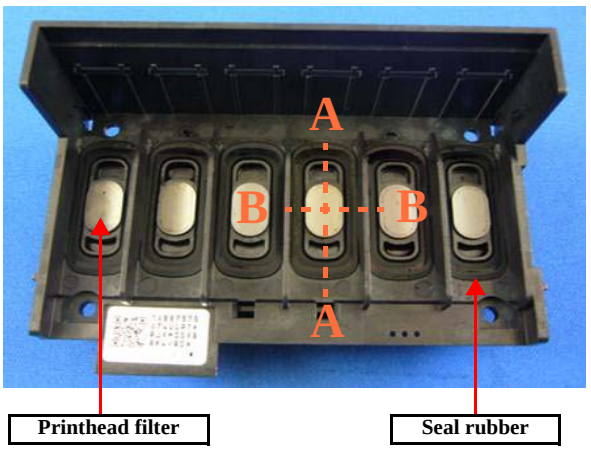
4.1 Overview

A newly structured printhead is used in this product. If any ink cartridges aren't installed, dust or foreign material attaches easily on the printhead compared to a usual one and it may affect the printing quality. So, appropriate cleaning is required. This section describes how to clean the printhead and the related parts.

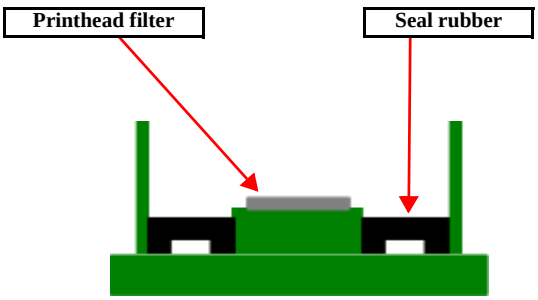
4.1.1 Cleaning the Printhead

This section describes how to clean the printhead using the following sectioned diagram.

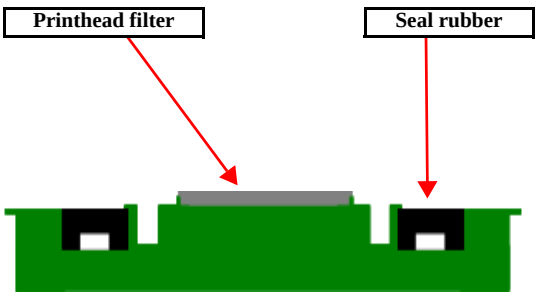
<Newly structured printhead>



■ **Sectioned Diagram (A-A)**



■ **Sectioned Diagram (B-B)**



Note: This sectioned diagram describes the only upper part of the printhead.

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4.1.1.1 Cleaning the printhead filter

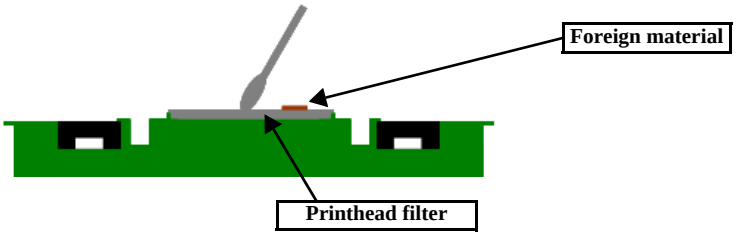
- **This cleaning should be carried out only if you can see foreign material on the printhead filter.**
- **Make sure not to break the printhead filter with excess force.**
- **The printhead filter cleaning should be carried out from the center to outside. (Otherwise, a cotton swab may be caught by the edge of the filter and a burr may result.)**
- **To prevent mixed colors, make sure not to use the old one for cleaning the printhead filter of the other colors.**

☐ Tools

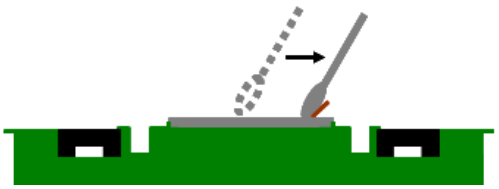
- Cotton swab

☐ Cleaning procedure

1. Place a dried cotton swab slowly in the center of the printhead filter.



2. Move the cotton swab slowly outside to wipe out foreign material.

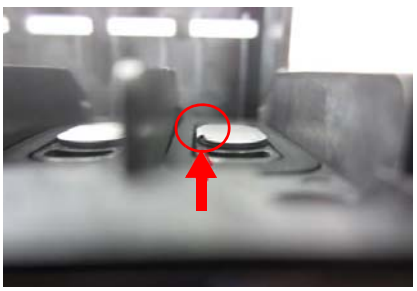


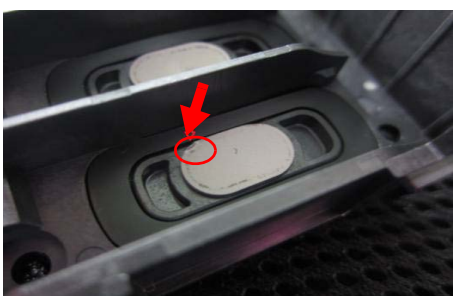
3. When finishing the cleaning to the outside of the printhead filter, remove the cotton swab.
4. If foreign material remains there, repeat the steps (1) to (3) shown above until foreign material is removed.

After cleaning, check if there are no damages such as shown below. If there are any damages there, replace the printhead with a new one.

- **A dent of the printhead filter**

- **A burr of the printhead filter**





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4.1.1.2 Cleaning the seal rubber section of the printhead

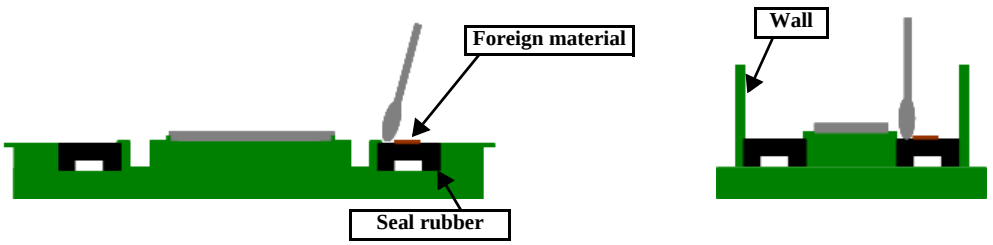
- **This cleaning should be carried out only if you can see foreign material on the seal rubber section of the printhead.**
- **The seal rubber section cleaning should be carried out from the center to outside.**
- **To prevent mixed colors, make sure not to use the old one for cleaning the seal rubber section of the other colors.**
- **When cleaning the seal rubber section of the printhead, actual ink/pure water/CR02 can be used to enhance transcription. But, make sure not to use the undesignated liquid (tap water/CR06) because they may have a negative influence on the printhead filter.**

☐ Tools

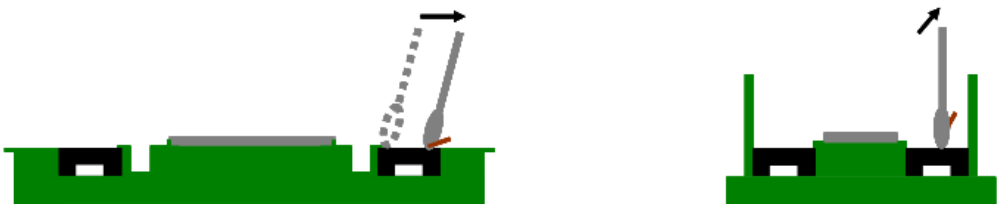
- Cotton swab (the tip is thin)
- Liquid (actual ink/pure water/CR02)

☐ Cleaning procedure

1. Place a dried cotton swab slowly in the center of the seal rubber section of the printhead.



2. Move the cotton swab slowly to wipe out foreign material.



3. When finishing the cleaning to the outside of the seal rubber section of the printhead, remove the cotton swab from the seal rubber section.
4. If foreign material remains there, repeat the steps (1) to (3) shown above until foreign material is removed.

Note : Actual ink/pure water/CR02 can be used to enhance transcription of foreign material.

4.1.1.3 Cleaning the nozzle plate section of the printhead

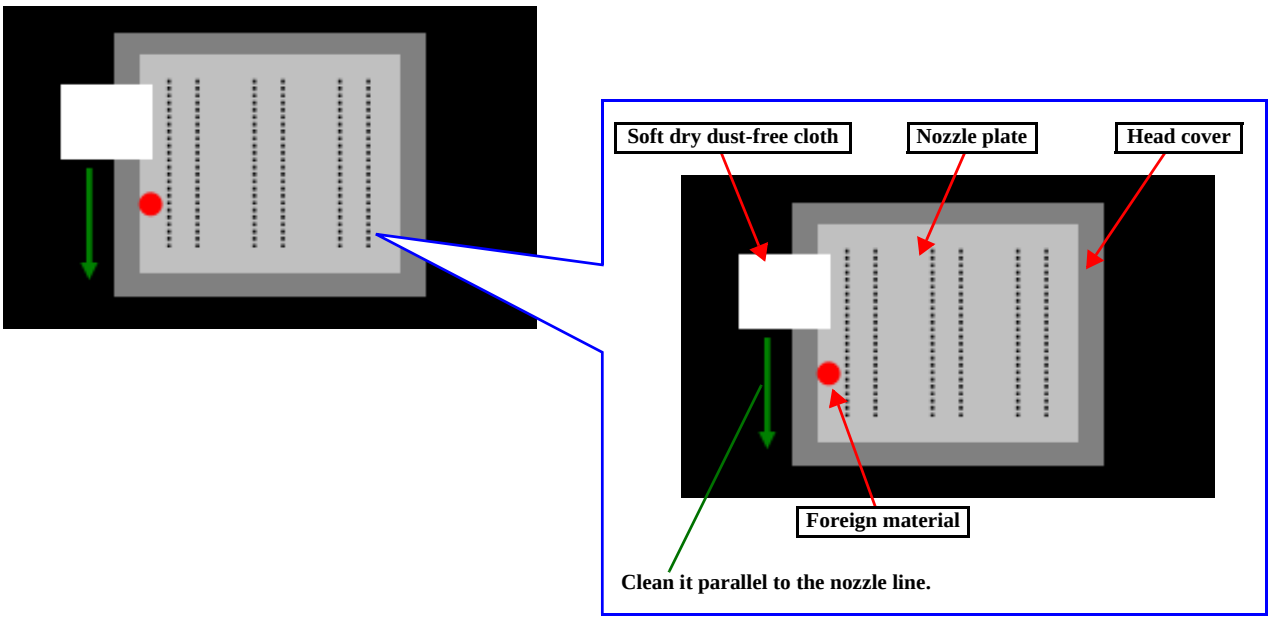
- **This cleaning should be carried out only if you can see foreign material on the nozzle plate of the printhead.**
- **Make sure not to break the nozzle plate with excess force.**
- **Make sure not to deform the head cover.**
- **To prevent mixed colors, make sure to clean it parallel to the nozzle line.**
- **Only wipe off where foreign material attaches, and do not touch the other sections to the utmost. If foreign material is big, make sure to wipe it off with a clean part of a soft dry dust-free cloth in batches.**
- **When cleaning the nozzle plate of the printhead, actual ink/pure water/CR02 can be used to enhance transcription. But, make sure not to use the undesignated liquid (tap water/ CR06) because they may have a negative influence on the printhead filter.**

☐ Tools

- Soft dry dust-free cloth
- Liquid (pure water/CR02)

☐ Cleaning procedure

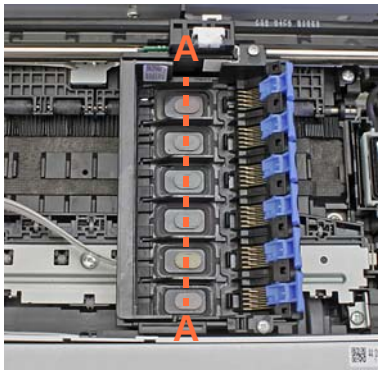
1. Remove foreign material by moving a soft dry dust-free cloth slowly and lightly.

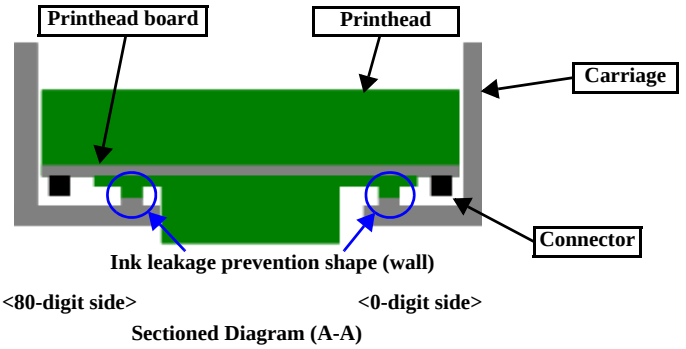


Note : Actual ink/pure water/CR02 can be used to enhance transcription of foreign material.

4.1.2 Cleaning the Carriage

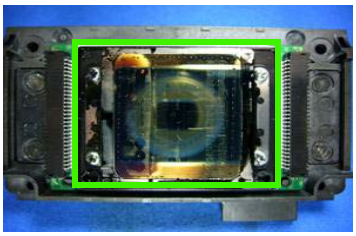
This product's carriage and printhead have walls to prevent an ink leakage into the carriage. Ink may be attached on the contact surface of the walls by the wiping operation during cleaning. So head short circuit may arise due to ink attachment on the terminal of the head FFC when replacing the printhead.



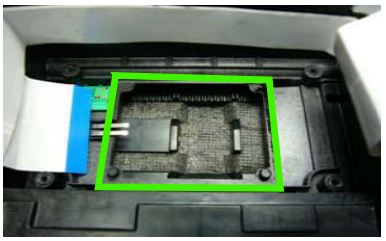


Sectioned Diagram (A-A)

■ **Position of the wall of the printhead**



■ **Position of the wall inside the printhead**



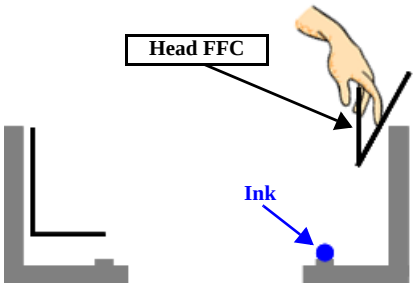
This cleaning should be carried out only when replacing the printhead.

☐ Tools

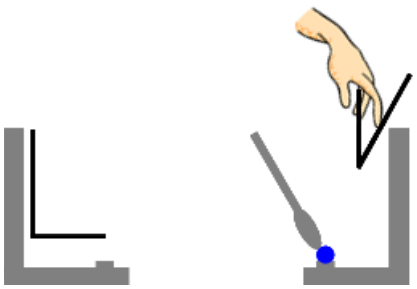
■ Cotton swab or soft dry dust-free cloth

☐ Cleaning procedure

1. After pulling out the head FFC while holding the printhead from the carriage, confirm the ink attachment on the wall.



2. If ink attaches on the wall, wipe it off with a cotton swab (or a soft dry dust-free cloth).



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4.1.3 Cleaning the Exterior Parts/inside of the printer

This section describes how to clean the sections other than the carriage.

☐ Instructions for cleaning

- Exterior parts such as housing
  Wipe dirt off with a soft clean cloth moistened with water. For glossy or transparent parts, use of unwoven cloth is recommended to avoid scratching those parts.
- Inside of the printer
  Remove paper dust with a vacuum cleaner.
- Rubber or plastic rollers such as an LD roller used to feed paper
  If paper dust adhered to the rollers decreases the frictional force of the rollers and the rollers cannot properly feed paper, wipe off the paper dust with a soft cloth moistened with diluted alcohol.

☐ Instructions for cleaning ink stains

Wipe the stains off with a cloth wrung out of diluted alcohol.

- **Do not use alcohol for cleaning the transparent parts. Doing so may cause them to get cloudy.**
- **When wiping paper dust off the rollers, be careful not to rub against the surface asperity.**
- **To minimize the effect on the parts, use diluted alcohol such as 70% diluted ether.**
- **After using alcohol for cleaning, make sure to wipe the part off with a soft dry dust-free cloth to remove alcohol traces fully.**

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4.2 Lubrication

The type and amount of the grease used to lubricate the printer parts are determined based on the results of the internal evaluations. Therefore, refer to "4.2.1 Lubrication Points and Instructions (p127)" for the repairing procedures below, and apply the specified type and amount of the grease to the specified part of the printer mechanism.

"4.2.1 Lubrication Points and Instructions (p127)" also provides information about whether or not the parts which require lubrication are supplied as ASP and the lubrication status when supplied as ASP. For the parts which are not supplied as ASP, if their movement is not smooth enough, check their lubrication status and lubricate them if necessary.

☐ Grease

Type	Name	EPSON Part Code	Supplier
Grease	G-96	1590700	EPSON
Grease	G-97	1635441	EPSON

☐ Tools

Name	Availability	EPSON Part Code
Injector	✓ *	---
Brush	✓ *	---
Flux dispenser	✓ *	1049533

Note "*": Use tools whose specifications are specified in "4.2.1 Lubrication Points and Instructions (p127)".

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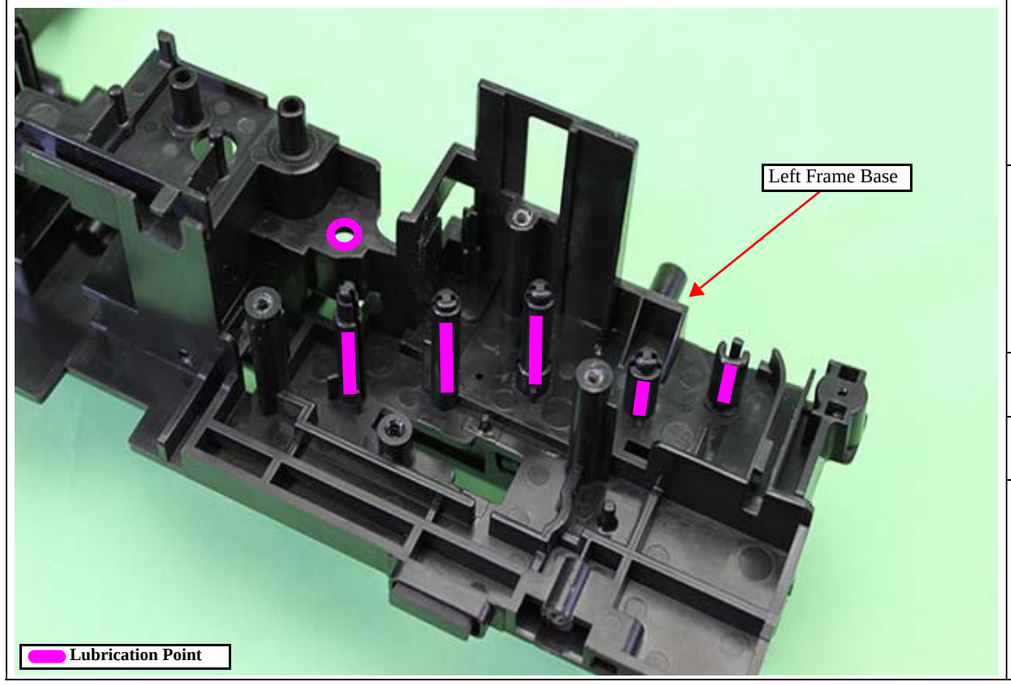
4.2.1 Lubrication Points and Instructions



<Part supply as ASP>
Supplied as the Printer Mechanism
<Lubrication status when supplied as ASP>
Lubricated

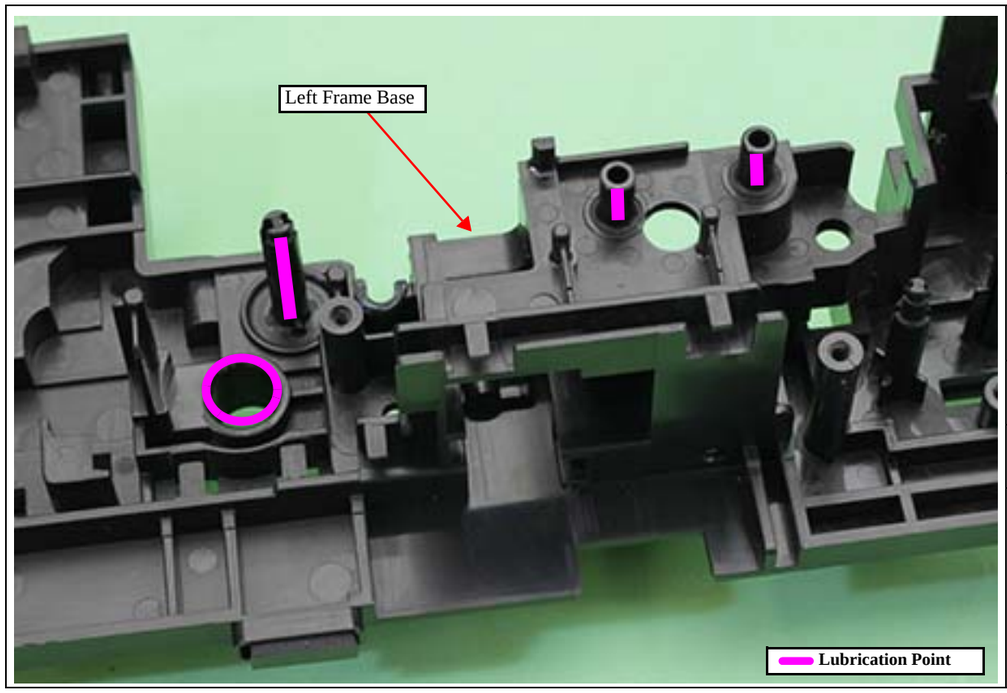
<Lubrication Point>
1. Shafts on left surface of Frame Base (five points)
2. Bush on left surface of Frame Base (one point)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with Flux Dispenser.
- ☐ Stir G-96 before use.

Figure 4-1. Lubricating Frame Base (1)



<Part supply as ASP>
Supplied as the Printer Mechanism
<Lubrication status when supplied as ASP>
Lubricated

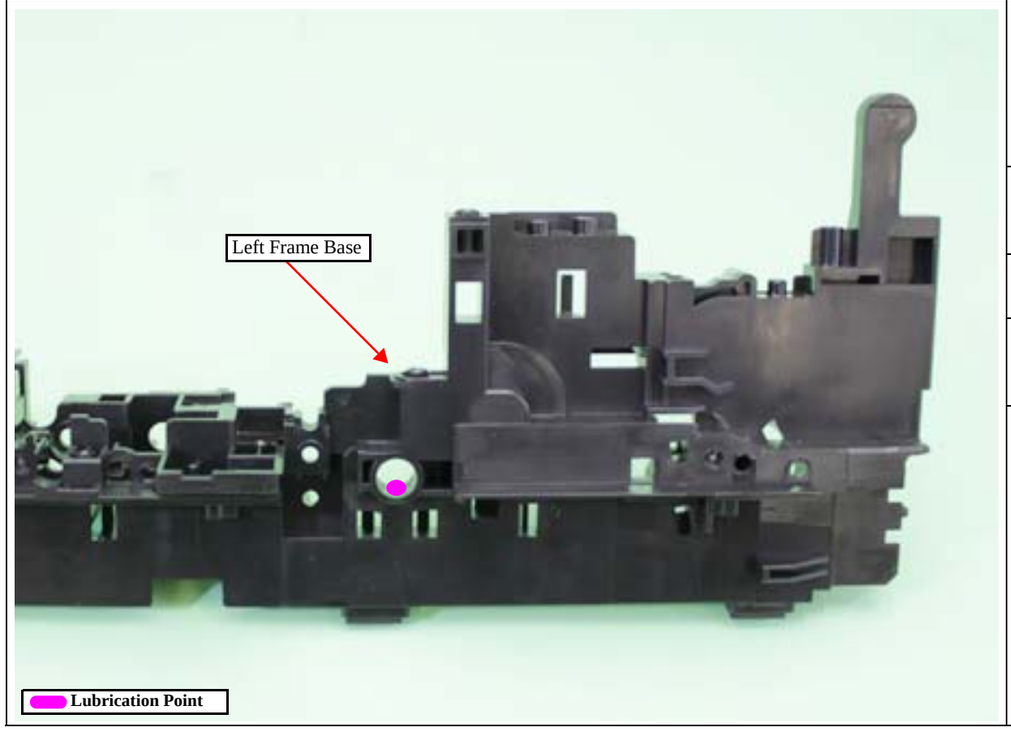
<Lubrication Point>
1. Shafts on left surface of Frame Base (three points)
2. Bush on left surface of Frame Base (one point)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with Flux Dispenser.
- ☐ Stir G-96 before use.

Figure 4-2. Lubricating Frame Base (2)



<Part supply as ASP>
Supplied as the Printer Mechanism
<Lubrication status when supplied as ASP>
Lubricated

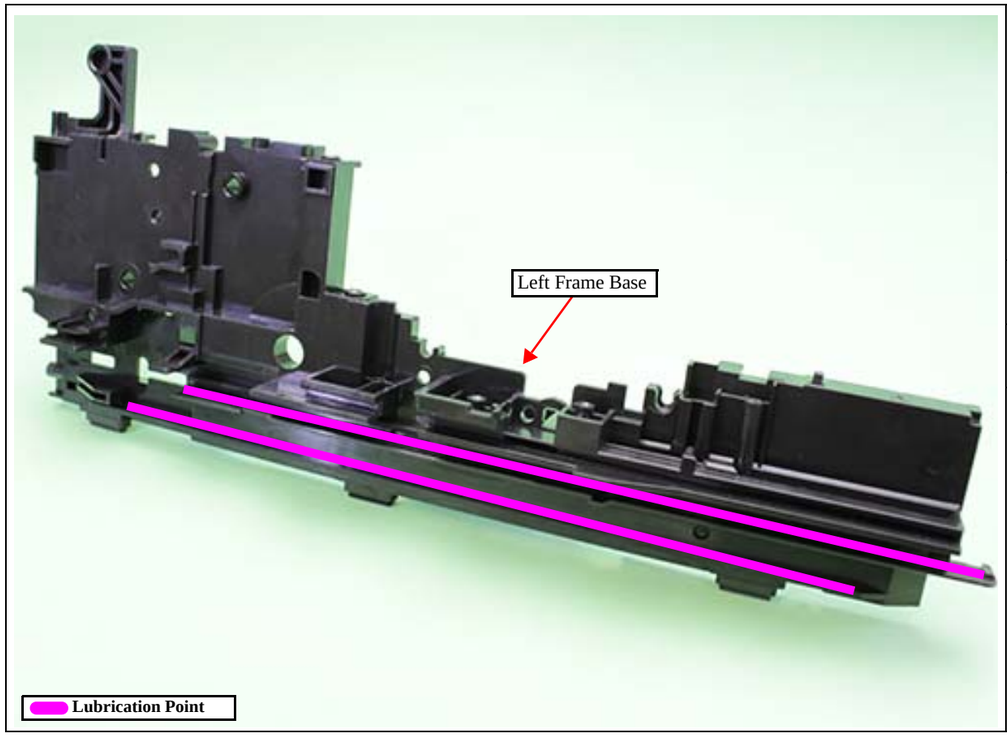
<Lubrication Point>
Bush on left surface of Frame Base (one point)

<Type>
G-97

<Application Amount>
0.04 g
(Size of a grain of rice)

<Remarks>
After applying with injector, spread it with a brush.

Figure 4-3. Lubricating Frame Base (3)



<Part supply as ASP>
Supplied as the Printer Mechanism
<Lubrication status when supplied as ASP>
Lubricated

<Lubrication Point>
Right surface of Frame Base (two points)

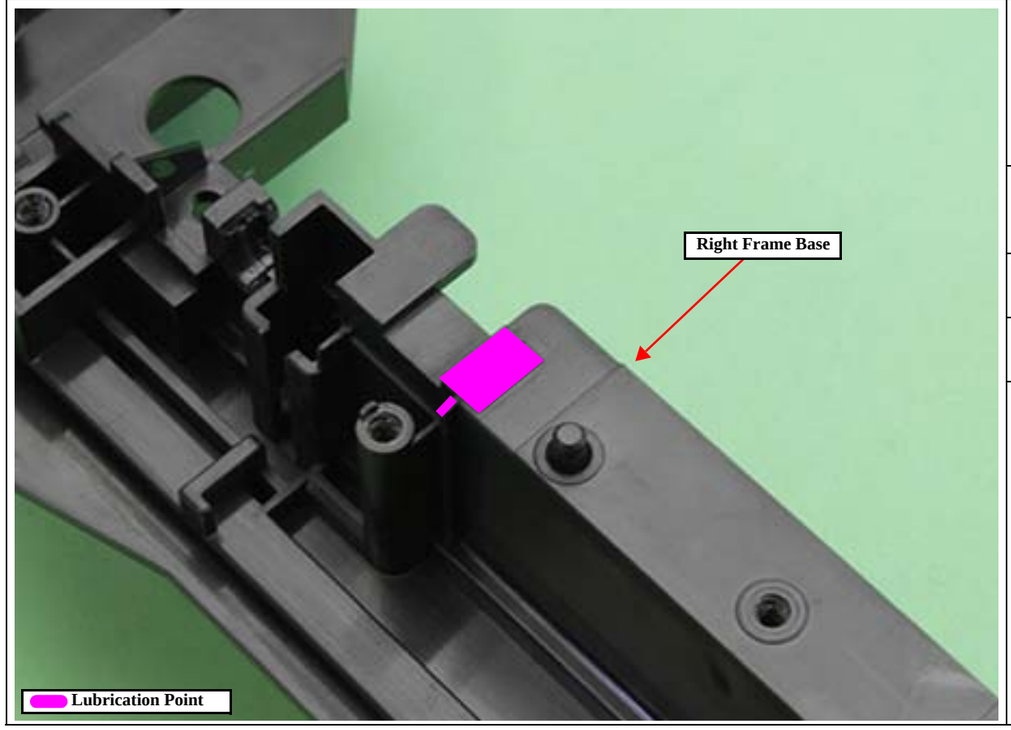
<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with Flux Dispenser.
- ☐ Stir G-96 before use.

Figure 4-4. Lubricating Frame Base (4)

Confidential



<Part supply as ASP>
Supplied as the Printer Mechanism
<Lubrication status when supplied as ASP>
Lubricated

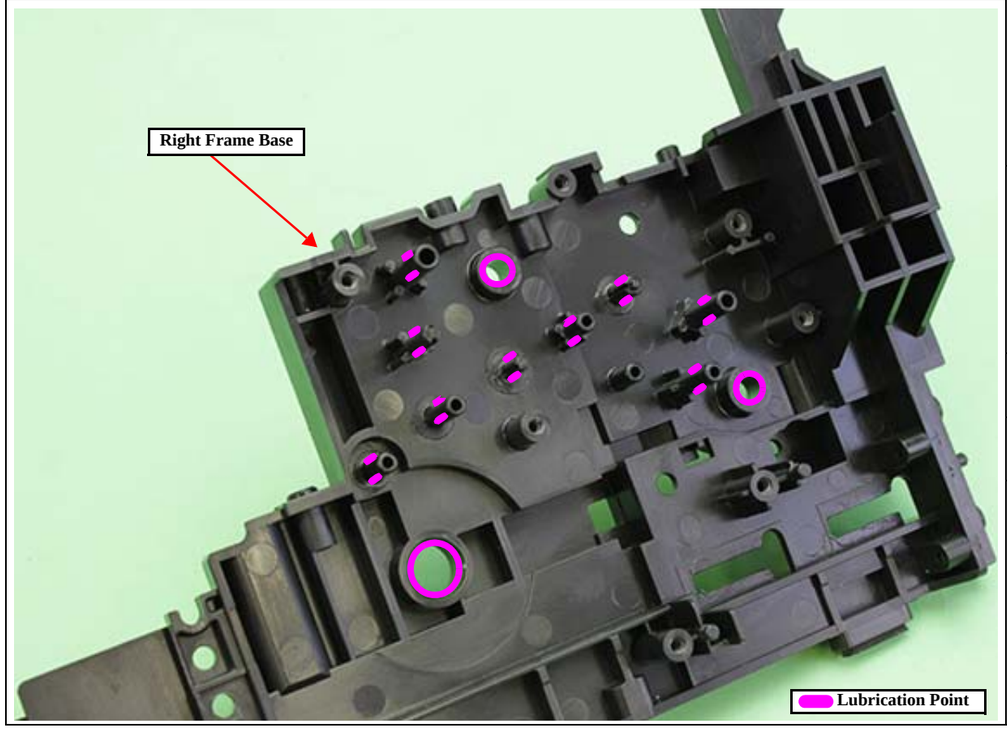
<Lubrication Point>
Right surface of Frame Base (two points)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with Flux Dispenser.
- ☐ Stir G-96 before use.

Figure 4-5. Lubricating Frame Base (5)



<Part supply as ASP>
Supplied as the Printer Mechanism
<Lubrication status when supplied as ASP>
Lubricated

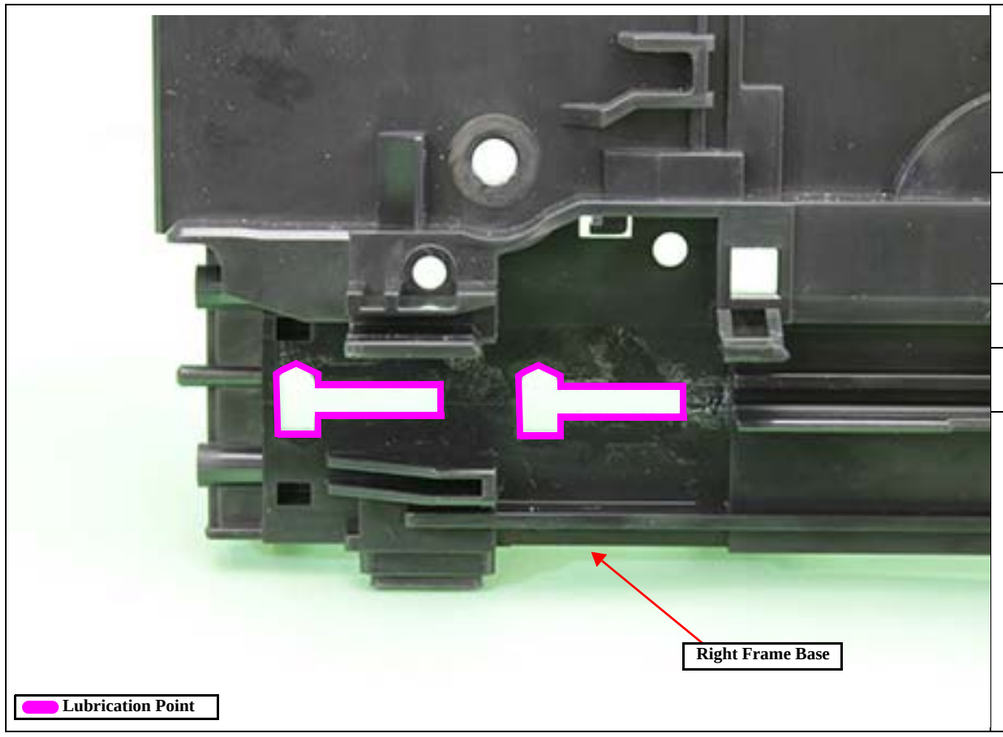
<Lubrication Point>
1. Shafts on Right surface of Frame Base (18 points)
2. Bushes on left surface of Frame Base (three points)

<Type>
G-97

<Application Amount>
0.002 g

<Remarks>
- ☐ After applying with injector, spread it with a brush.
- ☐ Lubricate on the tip of the shaft.

Figure 4-6. Lubricating Frame Base (6)



<Part supply as ASP>
Supplied as the Printer Mechanism
<Lubrication status when supplied as ASP>
Lubricated

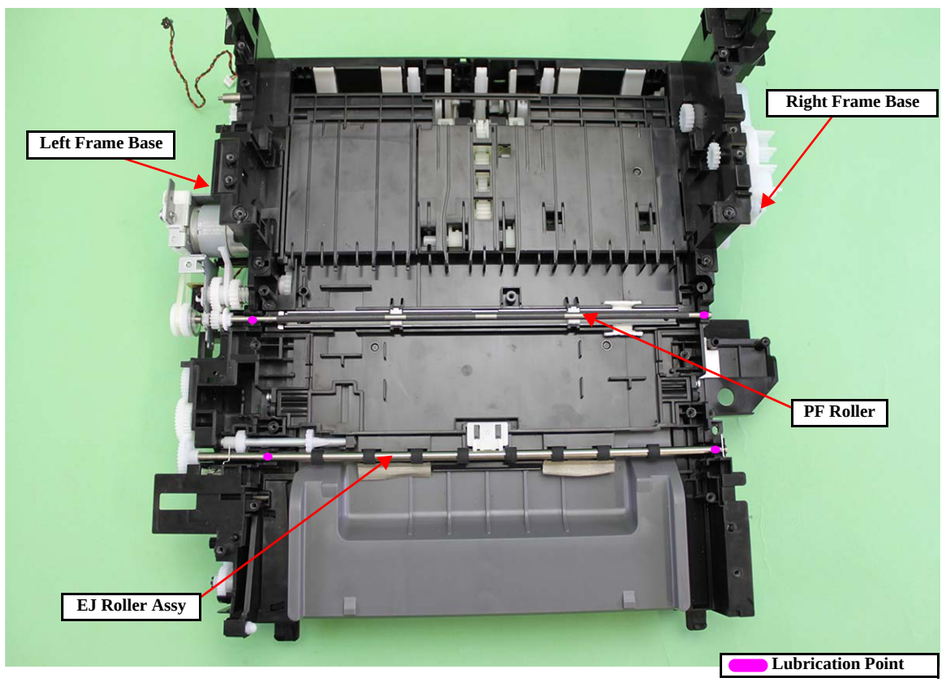
<Lubrication Point>
Contact points of Right Frame Base and Pick Up Drive Lever

<Type>
G-97

<Application Amount>
Appropriate amount

<Remarks>
After applying with injector, spread it with a brush.

Figure 4-7. Lubricating Frame Base (7)



<Part supply as ASP>
Supplied as the Printer Mechanism
<Lubrication status when supplied as ASP>
Lubricated

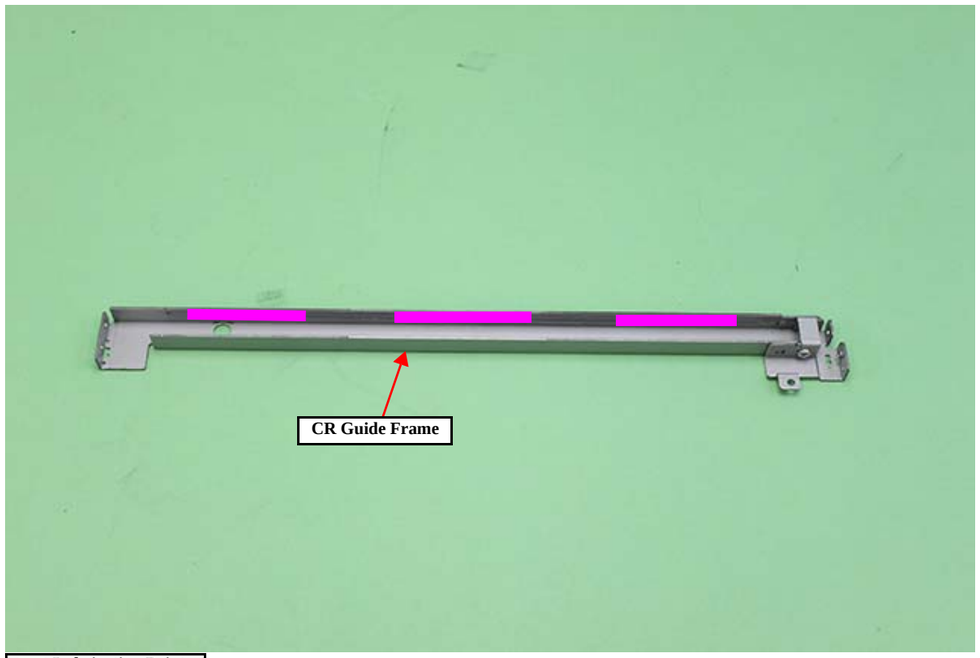
<Lubrication Point>
1. Contact points of PF Roller and Frame Base (two points)
2. Contact points of EJ Roller Assy and Frame Base (two points)

<Type>
G-97

<Application Amount>
0.04 g
(Size of a grain of rice)

<Remarks>
After applying with injector, spread it with a brush.

Figure 4-8. Lubricating Frame Base (8)



<Part supply as ASP>
Supplied as the CR Guide Frame
<Lubrication status when supplied as ASP>

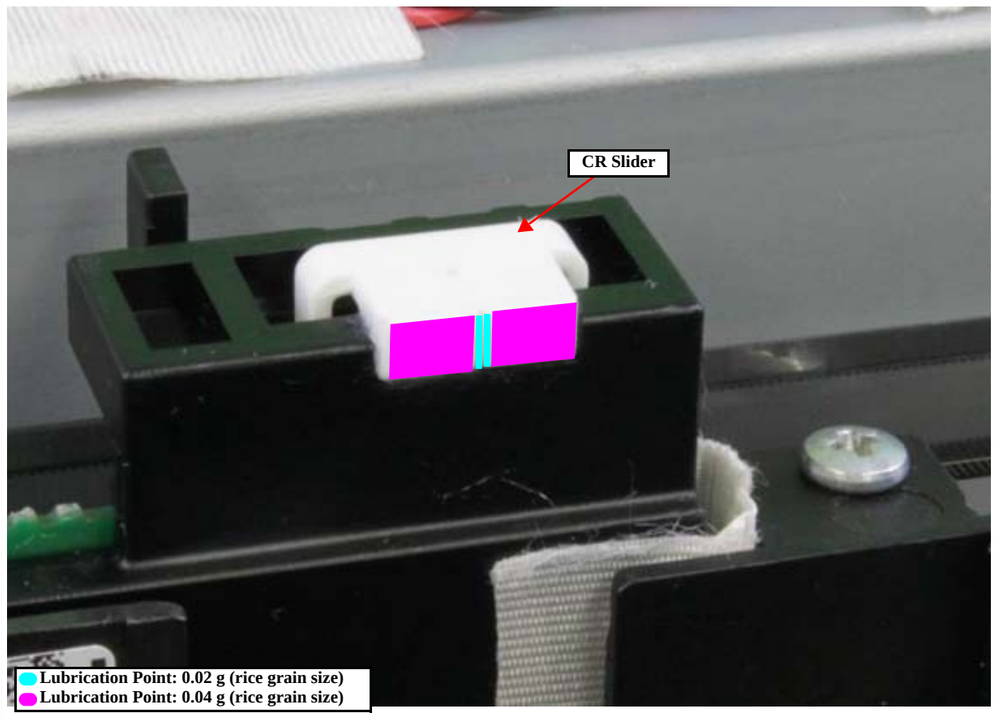
<Lubrication Point>
Contact points between CR Slider of CR Guide Frame (three points)

<Type>
G-97

<Application Amount>
Appropriate amount

<Remarks>
Spread the grease with a brush.

Figure 4-9. Lubricating CR Guide Frame



<Part supply as ASP>
Supplied as the CR Assy
<Lubrication status when supplied as ASP>
Lubricated

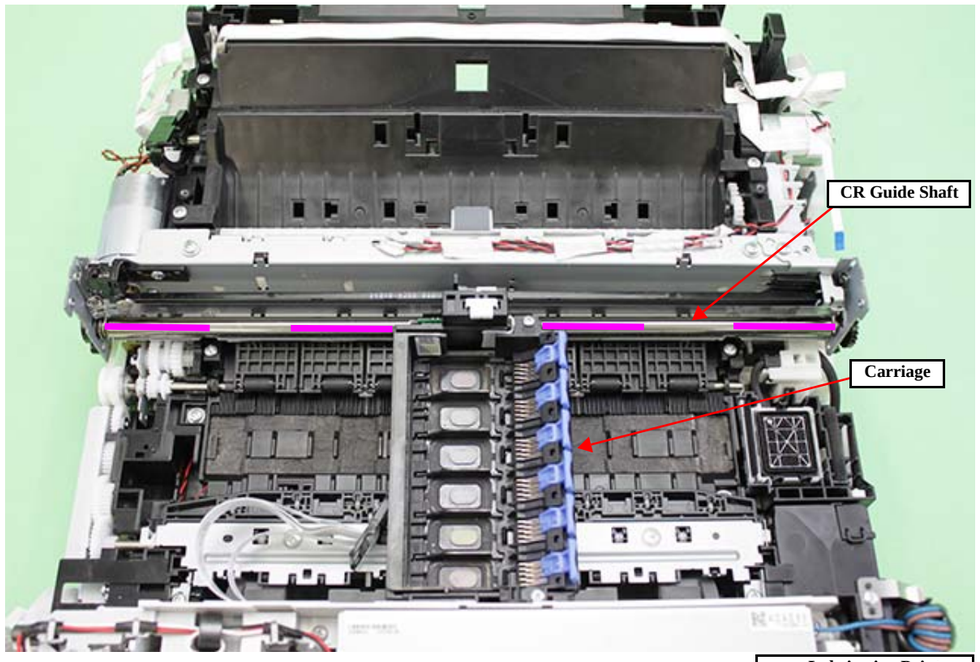
<Lubrication Point>
Contact points between CR Slider of CR Guide Frame (four points)

<Type>
G-97

<Application Amount>
0.04 g
(Size of a grain of rice)
0.02 g
(Size of a grain of rice)

<Remarks>
After applying with injector, spread it with a brush.

Figure 4-10. Lubricating CR Assy (1)



<Part supply as ASP>
Supplied as the CR Assy
<Lubrication status when supplied as ASP>
Lubricated

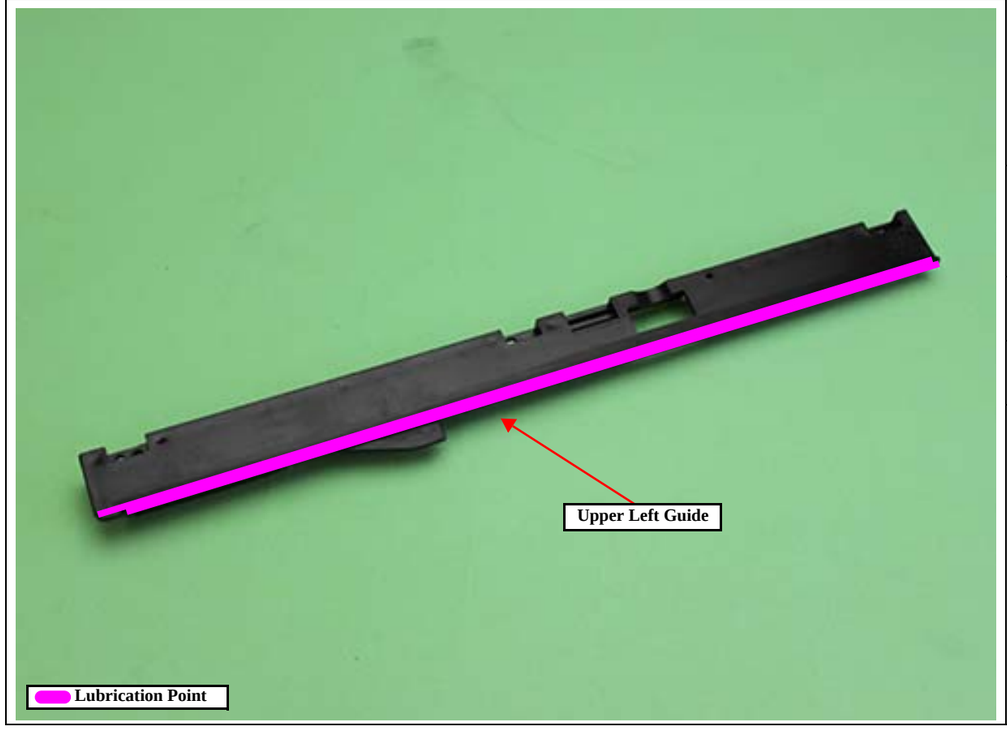
<Lubrication Point>
Contact points between CR Carriage of CR Guide Shaft (four points)

<Type>
G-97

<Application Amount>
Appropriate amount

<Remarks>
Spread the grease with a brush.

Figure 4-11. Lubricating CR Assy (2)



<Part supply as ASP>
Supplied as the Printer Mechanism
<Lubrication status when supplied as ASP>
Lubricated

<Lubrication Point>
Contact point between Stacker Assy of Upper Left Guide (one point)

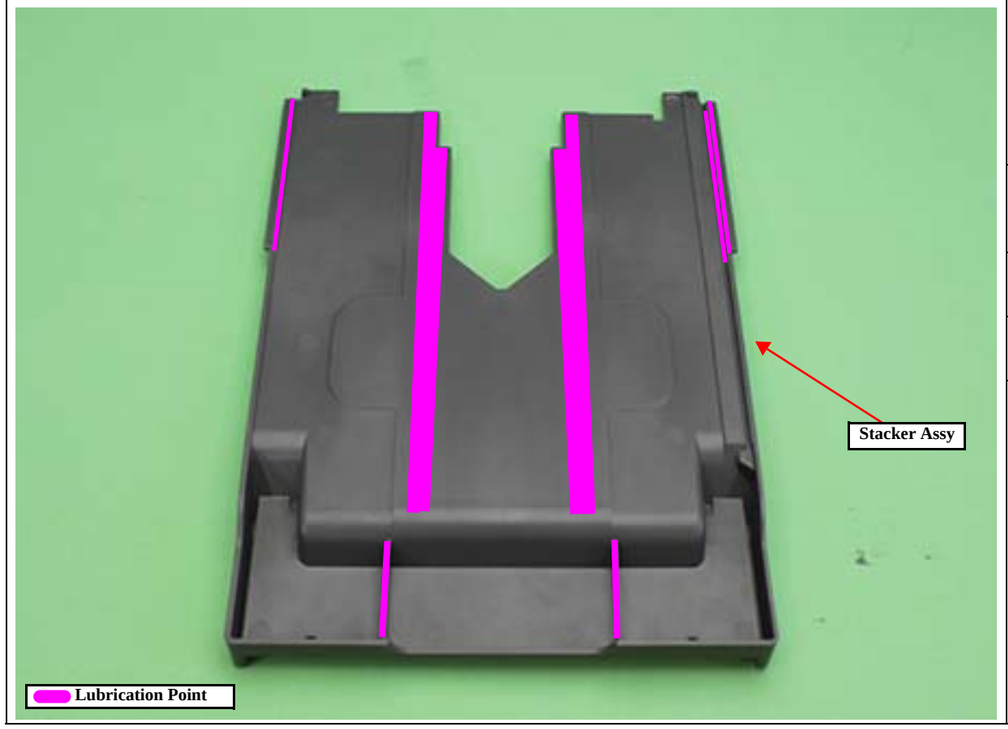
<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with Flux Dispenser.
- ☐ Stir G-96 before use.

Figure 4-12. Lubricating Upper Left Guide

Confidential



<Part supply as ASP>
Supplied as the Stacker Assy
<Lubrication status when supplied as ASP>

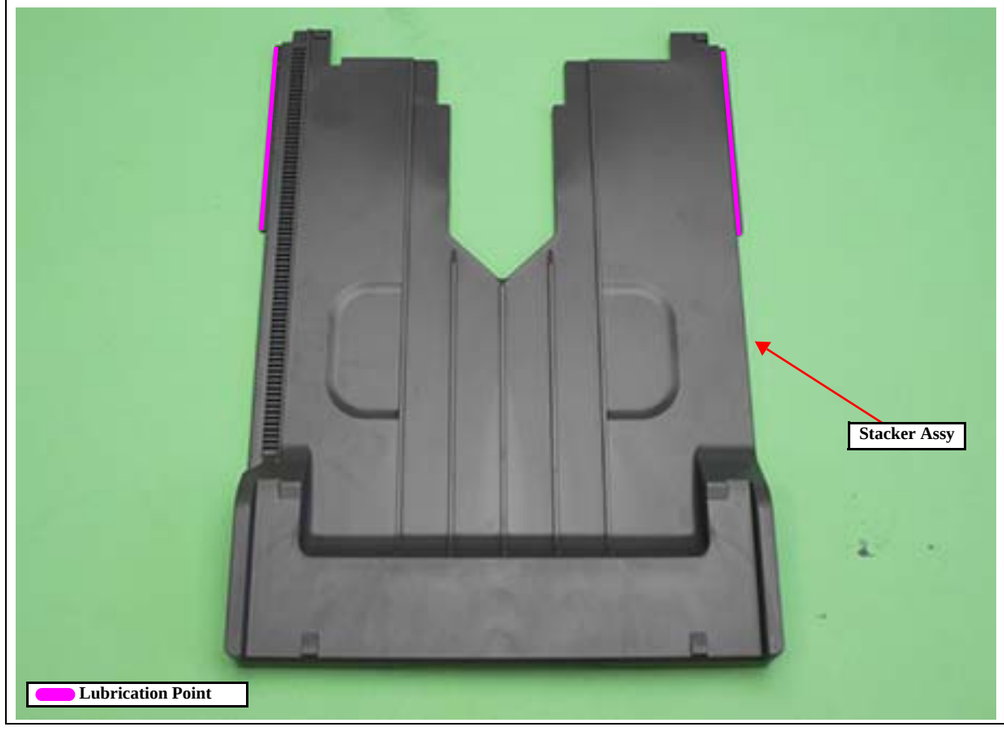
<Lubrication Point>
Sliding parts of Stacker Assy (seven point)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with Flux Dispenser.
- ☐ Stir G-96 before use.

Figure 4-13. Lubricating Stacker Assy (1)



<Part supply as ASP>
Supplied as the Stacker Assy
<Lubrication status when supplied as ASP>

<Lubrication Point>
Sliding parts of Stacker Assy (two point)

<Type>
G-96

<Application Amount>
Appropriate amount

<Remarks>
- ☐ Apply with Flux Dispenser.
- ☐ Stir G-96 before use.

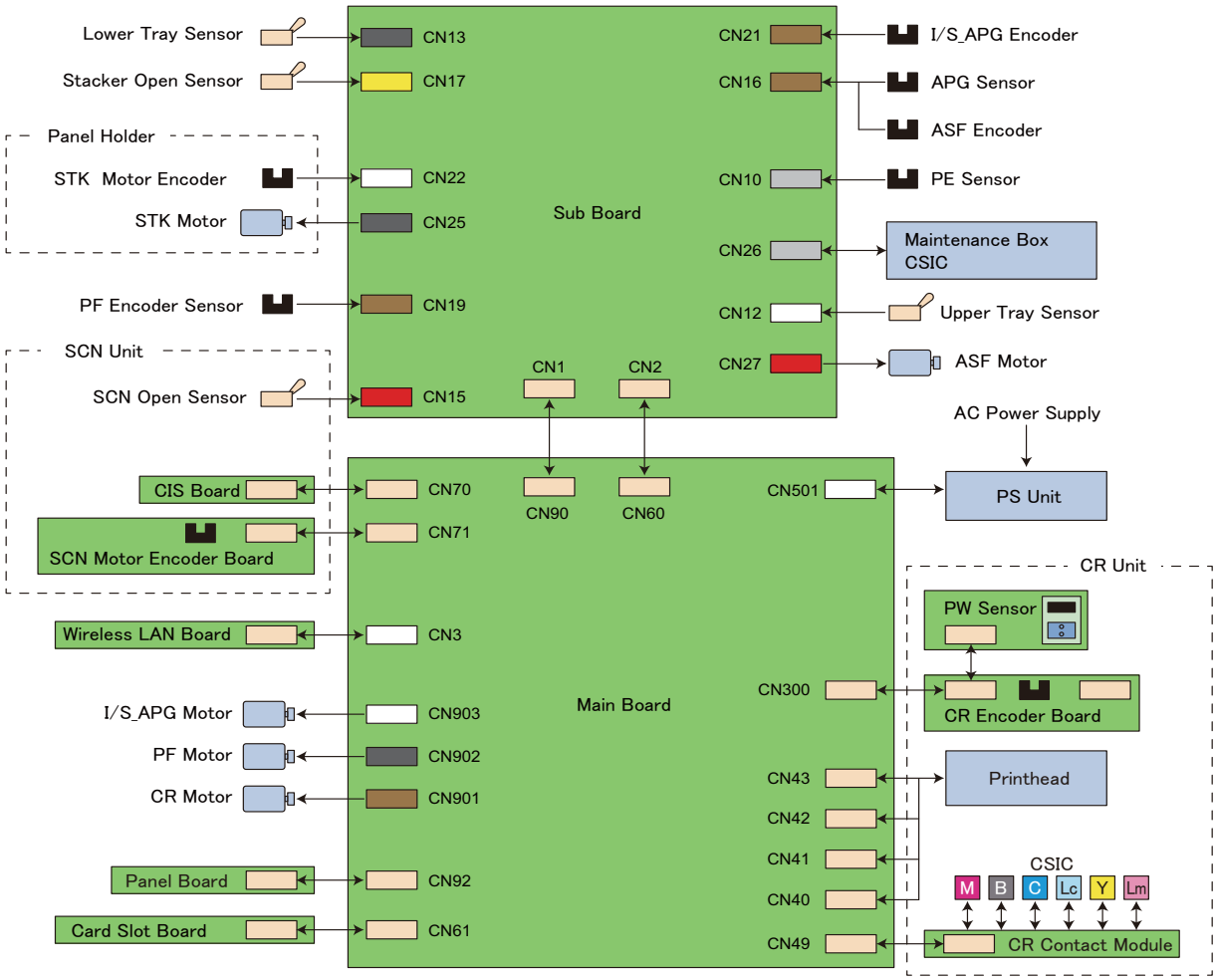
Figure 4-14. Lubricating Stacker Assy (2)

CHAPTER **5**

APPENDIX

5.1 Connector Diagram

Cable connections of this printer are shown below.



CN22, CN25:Except for XP-6000/XP-6001/XP-6005

Figure 5-1. Connector Diagram

5.2 Protection for Transportation

This section describes the cautions for packing the printer before returning it to the user.

5.2.1 Securing the CR Unit

- Purpose
  - To prevent damaging the CR/APG mechanism parts by shock during transportation.
  - To prevent ink spattering from the shipping liquid on the Printhead. (Pad, CR)
- Risks if it is not performed
  - Fatal error caused by the damage of the CR/APG mechanism parts.
  - Inside contamination by the scattering of the shipping liquid.
- Preparation
  - Prepare a piece of strong tape or TESSA TAPE,64284,BLUE(Length: 170 mm, width: 22 mm, fold one end 5 mm)
  - Prepare a packing material (Pad, CR (5144319), (Length: 170 mm, width: 22 mm, fold one end 5 mm))
  - Secure the ink cartridge holder to the case by attaching the supplied PAD,CR on top with tape.
  - Put it among vinyls so that the tape should not place directly to the ink position label.

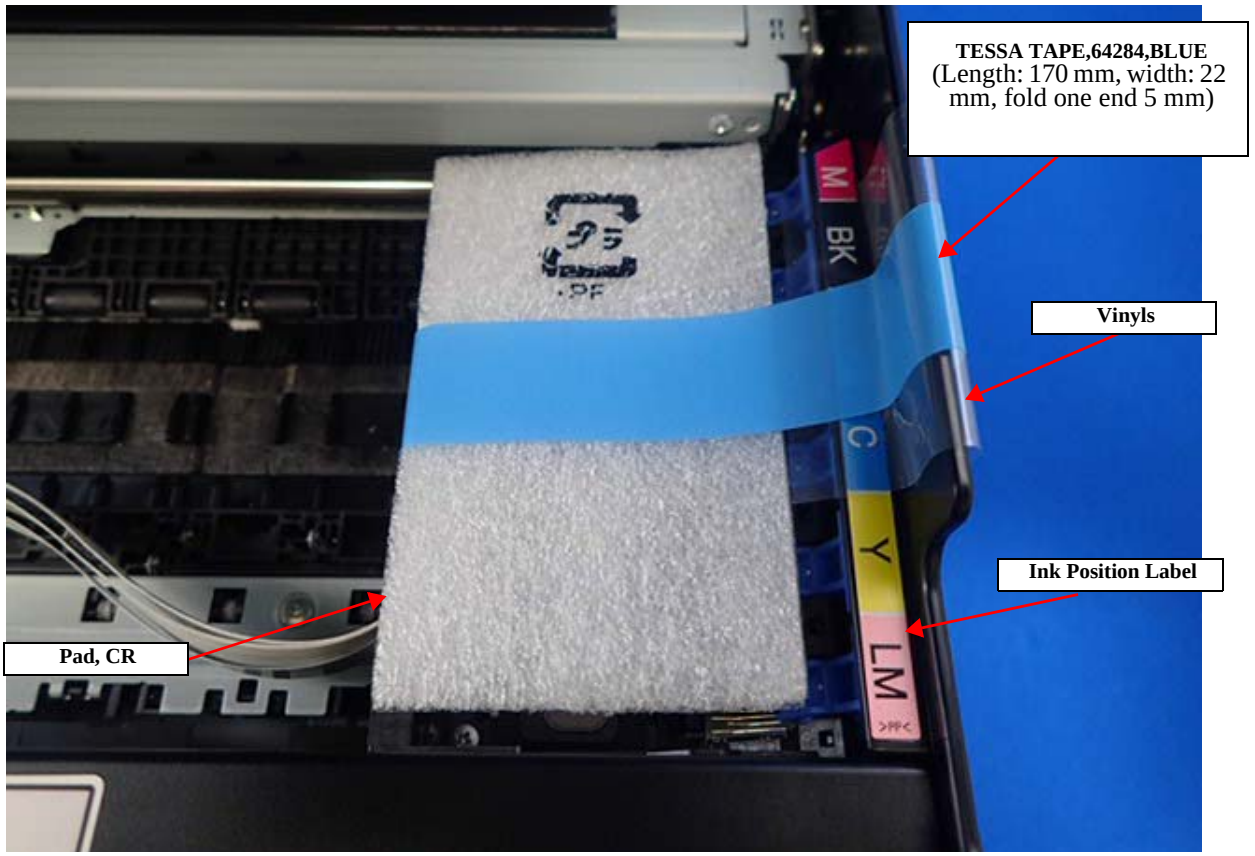


Figure 5-2. The method of making a packing material

Name	Availability	EPSON Part Code
PAD,CR	✓	1477458
TESSA TAPE,64284,BLUE;22mmX50m	✓	5144319
Vinyl	✓	---

Note 1: EPSON provides the tools listed with EPSON part code.

5.2.2 Securing the CDR Tray

- Purpose
  To prevent damaging the CDR Tray by the shock during transportation.
- Risks if it is not performed
  Damage of the CDR Tray by the shock during transportation.
- Preparation
  Prepare a piece of strong tape (Length: 60 mm, width: 22 mm, fold one end 5 mm)
- Method
  Secure the CDR Tray with the strong tape to the Cassette Cover as shown below.

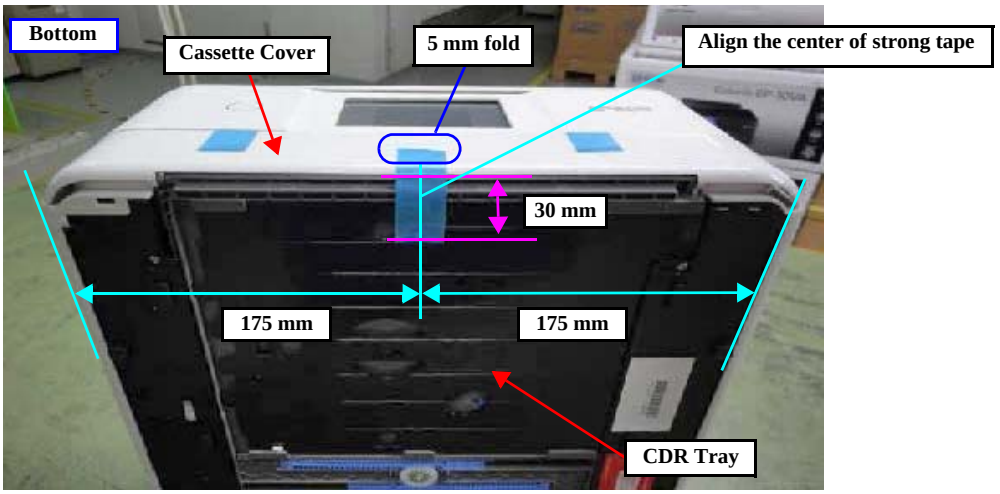
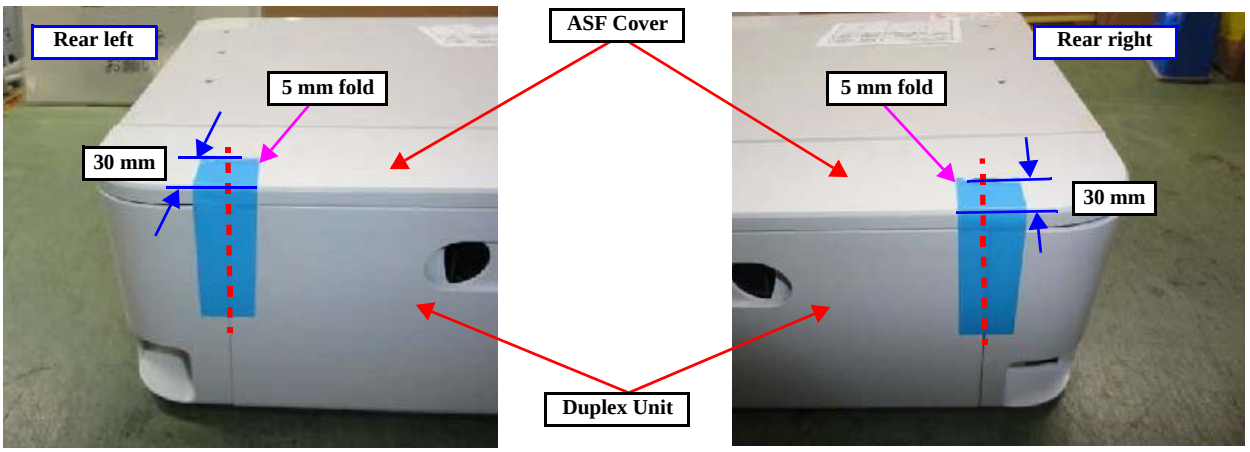


Figure 5-3. Securing the CDR Tray

5.2.3 Securing the Duplex Unit

- Purpose
  To prevent damaging the Duplex Unit by the shock during transportation.
- Risks if it is not performed
  Damage of the Duplex Unit by the shock during transportation.
- Preparation
  Prepare two pieces of strong tape (Length: 90 mm, width: 22 mm, fold one end 5 mm)
- Method
  Secure the Duplex Unit and the ASF Cover with the strong tape as shown below.



Align the center of strong tape with both edges of the Duplex Unit and paste it.

Figure 5-4. Securing the Duplex Unit

5.2.4 Securing the Document Cover/ASF Cover

- Purpose
  To prevent damaging the Document Cover/ASF Cover by the shock during transportation.
- Risks if it is not performed
  Damage of the Document Cover/ASF Cover by the shock during transportation.
- Preparation
  Prepare four pieces of strong tape (Length: 90 mm, width: 22 mm, fold one end 5 mm)
- Method
  Secure the Document Cover/ASF Cover with the strong tape to the Housing Left/Right as shown below.

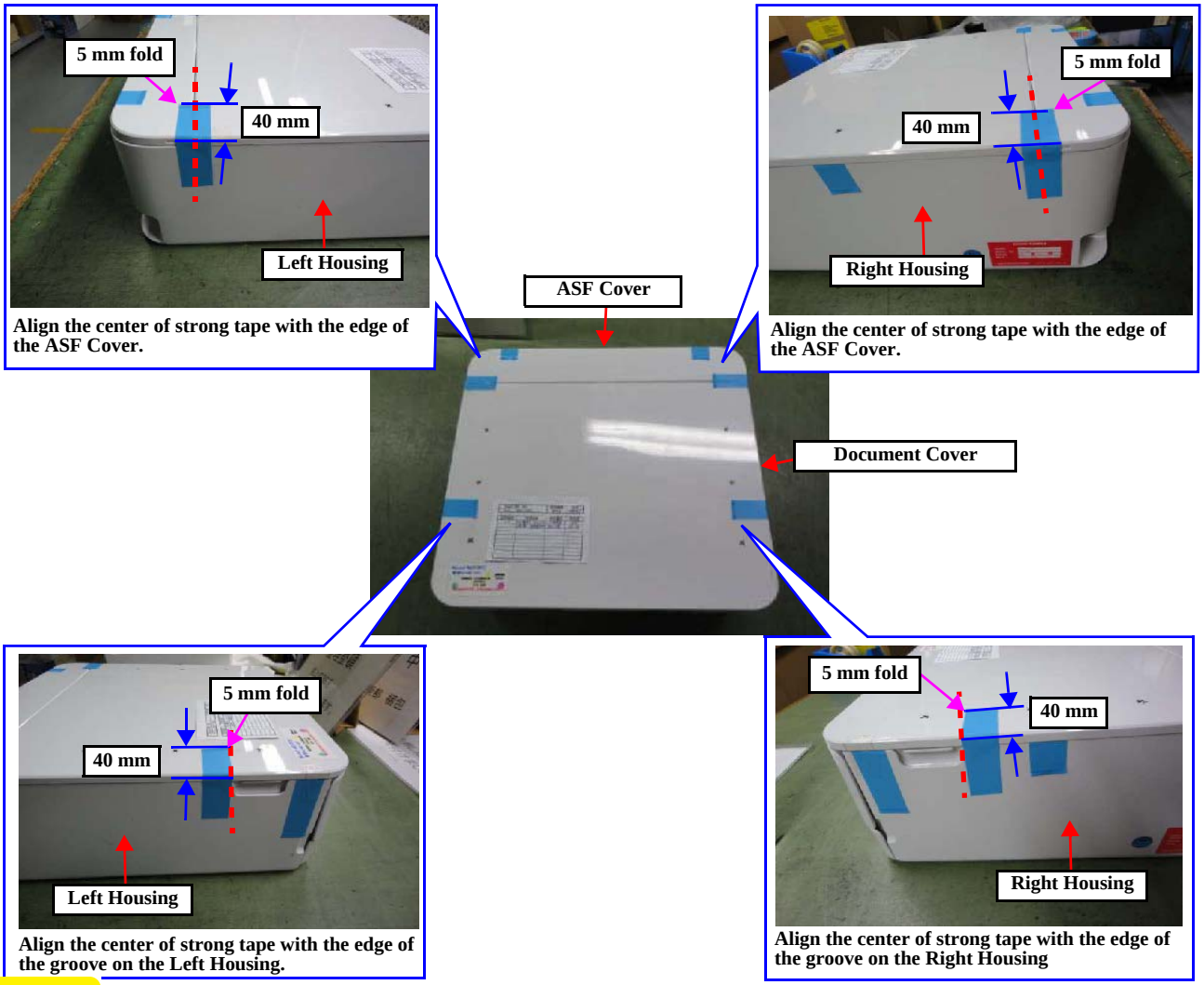
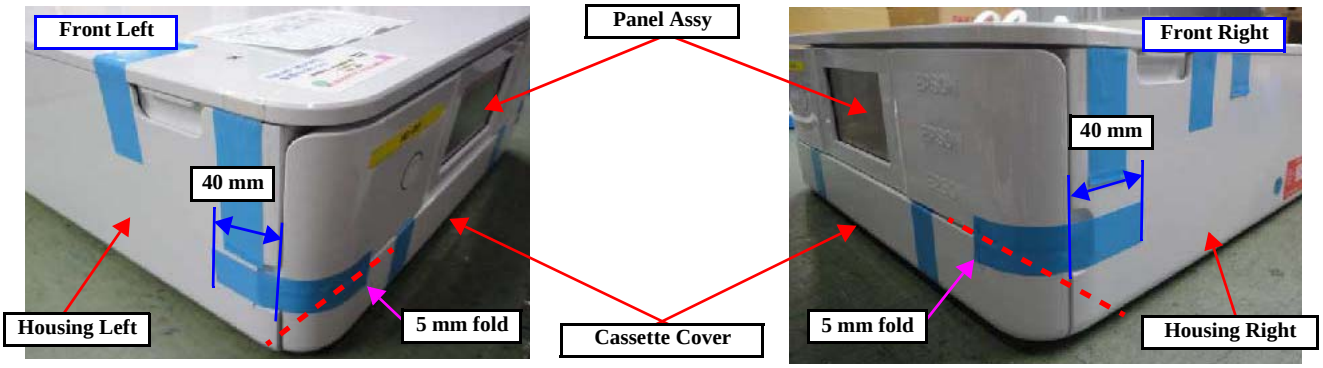

5 mm fold
40 mm
Left Housing
Align the center of strong tape with the edge of the ASF Cover.
5 mm fold
40 mm
Right Housing
Align the center of strong tape with the edge of the ASF Cover.
ASF Cover
Document Cover
5 mm fold
40 mm
Left Housing
Align the center of strong tape with the edge of the groove on the Left Housing.
5 mm fold
40 mm
Right Housing
Align the center of strong tape with the edge of the groove on the Right Housing

Figure 5-5. Securing the Document Cover/ASF Cover

5.2.5 Securing the Panel Assy/Cassette Cover

- Purpose
  To prevent damaging the Panel Assy/Cassette Cover by the shock during transportation.
- Risks if it is not performed
  Damage of the Panel Assy/Cassette Cover by the shock during transportation.
- Preparation
  Prepare two pieces of strong tape (Length: 90 mm, width: 22 mm, fold one end 5 mm)
- Method
  Secure the Panel Assy/Cassette with the strong tape to the Left/Right Housing as shown below.



Align the center of strong tape with the upper edge of the Cassette Cover.

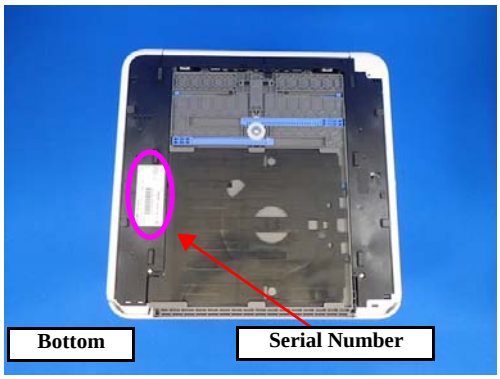
Figure 5-6. Securing the Panel Assy/Cassette Cover

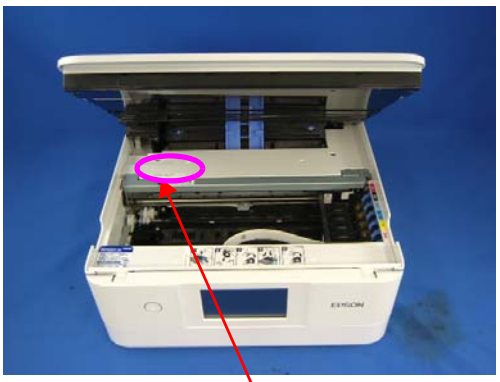
5.3 Other Information

This section provides other information.

5.3.1 Name Plate Label

The Name Plate Label of this product is pasted on the bottom since pasting area is limited due to the miniaturization of the product. The Sub Serial Number Label is attached on the regular position shown below and you can check it by opening the SCN Unit.

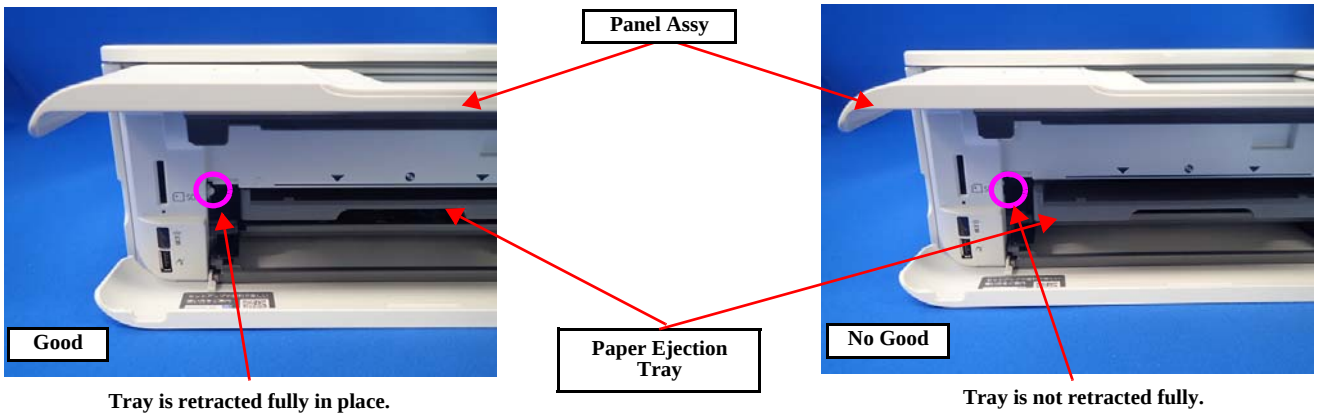




5.3.2 Other Precautions (Only XP-8500/XP-8505)

If the Paper Ejection Tray is not retracted in place properly, the Front Panel cannot be closed.

Take extra care when handling the printer after repair even though it is warned in the User Guide.



CHAPTER **6**

XP-6000/XP-6001/XP-6005

6.1 Overview

XP-6000 series are the printer based on XP-8500 series with changes such that the motors/sensors are reduced and the panel is changed, etc.

In this chapter, the points different from the XP-8500 series are described.

Differences between the XP-8500 series and the XP-6000 series are as follows.

■ **In this chapter, the product names are called as follows:**
- **XP-8500 series : XP-8500/XP-8505**
- **XP-6000 series : XP-6000/XP-6001/XP-6005**

Items		XP-8500 series	XP-6000 series	Remarks
Printhead		F6V	F6V	---
Color		6 colors (Black, Cyan, Light cyan, Magenta, Light magenta, Yellow)	5 colors (Photo black, Matte black, Cyan, Magenta, Yellow)	For the XP-6000 series, four dye inks (Photo black, Cyan, Magenta, Yellow) and one pigment ink (Matte black) are used in combination.
Ink type		Dye ink	Dye & Pigment ink	
Number of motors		5	3	The pump motor and the stacker motor are not used in the XP-6000 series. The location of the ASF motor is changed from that of the XP-8500 series. The APG mechanism and the ink system are driven by the ASF motor.
Number of sensors		13	10	Not only the encoders for reduced motors, also the scanner document sensor is not adopted.
Paper load mechanism	Front paper loading	O	O	Rear manual paper feeding is not supported for the XP-6000 series.
	Manual paper loading (Rear)	O	---	
	Printing on disk media	O	O	
	Auto Duplex Printing	O	O	
Operation panel type		2.7inch LCD & Touch panel	2.4inch LCD & Button	---
Automatic panel open mechanism		O	---	The panel/stacker of the XP-6000 series are not automatic.
Automatic stacker open mechanism		O	---	

6.1.1 Panel Unit

2.4inch LCD & Button

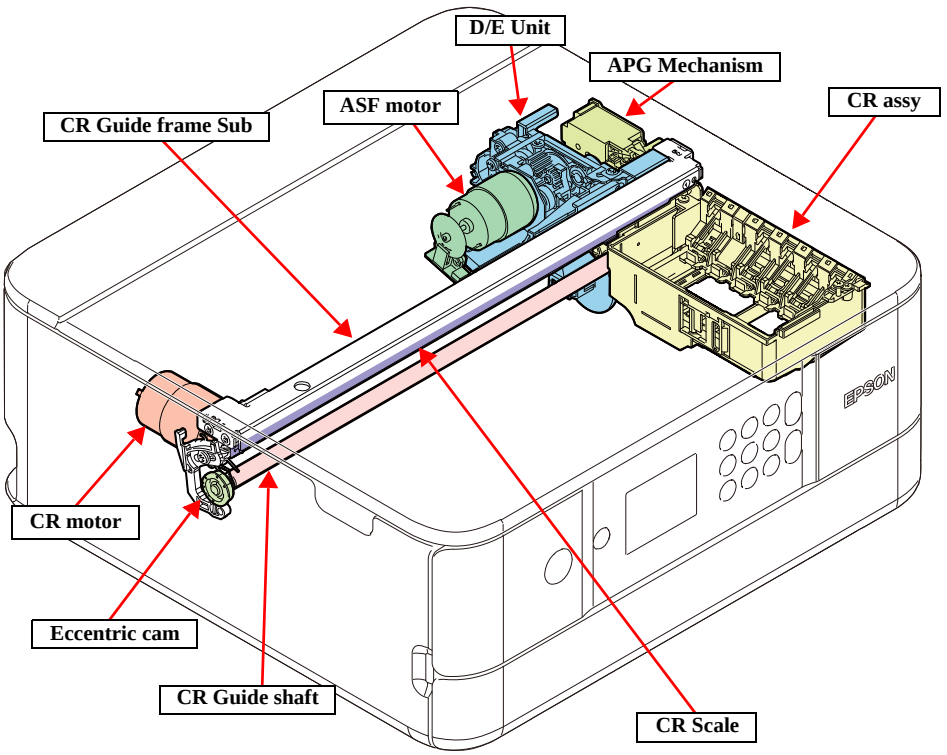
6.1.2 Scanner Unit

The scanner mechanism consists of a CIS module that scans documents and scanner motor that drives the scanner carriage. Basically the same as the XP-8500 series functionally, but cannot detect the document left behind warning because the scanner document cover open sensor is not mounted on the XP-6000 series.

6.1.3 APG mechanism

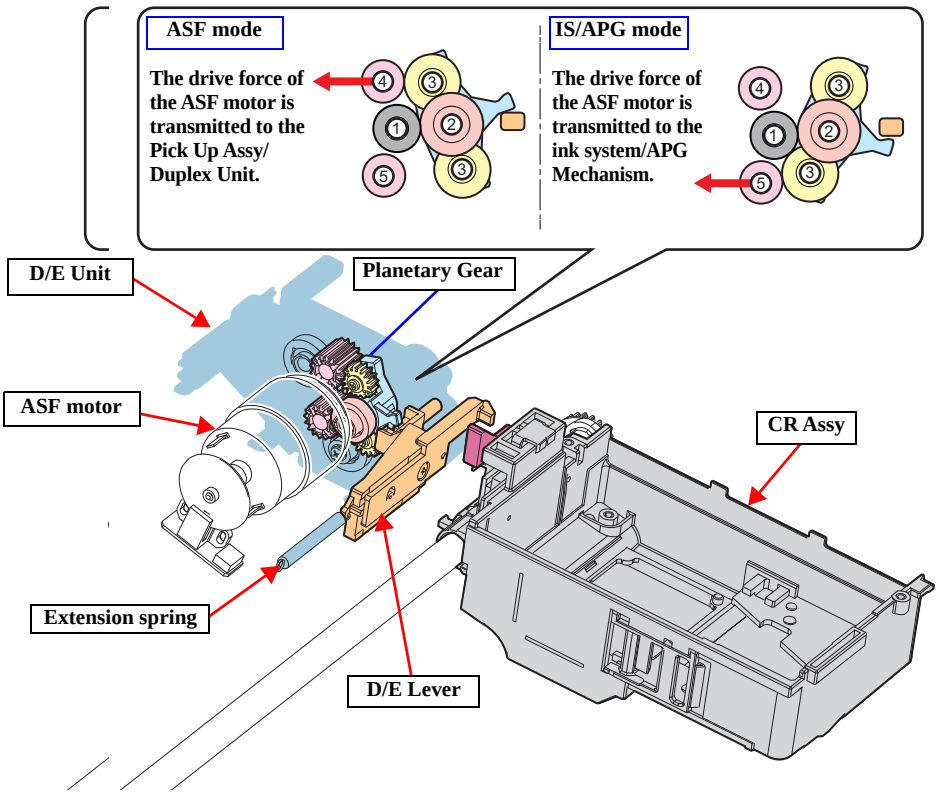
The APG mechanism of the XP-6000 series is the same as that of the XP-8500 series. However, the drive force is obtained via the D/E unit since the power source is changed from the pump motor to the ASF motor.

The PG types of the XP-6000 series are four; same as those of the XP-8500 series.



6.1.4 Switching Drive Paths with D/E Unit

By the state of the planetary gear in the D/E unit, the ASF motor's drive force transmission mode is switched between the ASF mode and the IS/APG mode.
Switching action of the planetary gear in the D/E unit is controlled by the specified positions of the D/E lever shifted according to the movement of the CR assy and the rotation of the ASF motor. When the CR assy is not pushing the D/E lever (somewhere on the CR path between the 80 digit side and the switching position), the D/E lever is in the default position pulled toward the 80 digit side by the extension spring.


ASF mode
The drive force of the ASF motor is transmitted to the Pick Up Assy/ Duplex Unit.
IS/APG mode
The drive force of the ASF motor is transmitted to the ink system/APG Mechanism.
D/E Unit
Planetary Gear
ASF motor
CR Assy
Extension spring
D/E Lever

No.	Name
1	Pinion gear of ASF motor
2	Sun gear
3	Planetary Gear
4	Spur gear A (drives the Pickup Assy/Duplex unit)
5	Spur gear B (drives the ink system/APG mechanism)

CHAPTER **7**

REFURBISHMENT

7.1 Overview

This chapter provides the refurbishing work of the printer and its purpose.

7.1.1 Ink Discharge

☐ Purpose

To clean the ink path inside the Printhead to restore its condition identical to the factory default.

☐ Jigs

Required jigs and cleaning liquid for cleaning the ink path is as follows.

Name	Category	EPSON Part Code
Ink Supply Jig	Jig	CF15,SUPPLY,JIG
BOARD,CSIC,JIG,CF15;BK	Jig	217734400
Shipping Cleaning Liquid, CR02, 18KG (18kg)	Cleaning Liquid	6022798
Shipping Cleaning Liquid, CR02, 1KG (1kg)	Cleaning Liquid	6022805
I/P, DPIC009BSP, 110, PRINTING	Ink Pack	1462531

☐ Operation of the Adjustment Program for refurbishment when performing the ink discharge

Ink discharge can be done by selecting and running “Ink Discharge” from the Adjustment Program for refurbishment with the jig set on the printer.

At this point, the factory default values except the adjustment-related setting values are written on the EEPROM on the Main Board of the printer. This is performed in order to erase the personal information including the network settings and the operating information of the printer before refurbishment, etc.

This default value restoration is automatically done when performing the ink discharge by the Adjustment Program for refurbishment automatically.

- **For the details of how to set the jigs for refurbishment and how to use the Adjustment Program (for refurbishment), see guide in the Adjustment Program (for refurbishment).**
- **Approximately four minutes are necessary for completing the Ink Discharge.**